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SUMMARY OF SPECIFICATION REQUIREMENTS FOR MILITARY FABRICS

by

Testing Methodology Group

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UNITED STATES ARMY
NATICK LABORATORIES
Natick, Massachusetts 01700



Clothing & Organic Materials Laboratory
TS-102 (Revised)

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CLOTHING & ORGANIC MATERIALS LABORATORY

Textile Series Report No. 102

Superseding Textile Series Report No. 102 dated December 1957,

Defense Documentation Center No. AD 153,685

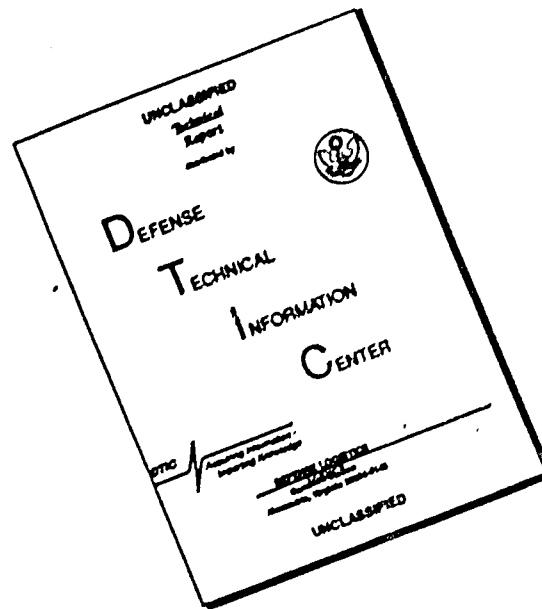
SUMMARY OF SPECIFICATION REQUIREMENTS FOR MILITARY FABRICS

Prepared by

Testing Methodology Function

Quality Assurance Branch, Standardization Division

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FOREWORD

Since 1957 when this listing of Military specification requirements was last prepared and issued, the supply of copies has been exhausted. In view of the many continuing requests for copies of this report and due to the many changes which have occurred, it has become necessary to prepare a revised edition.

The present report supersedes Textile Series Report No. 102 dated December 1957.

Since the original issue in 1951 and the subsequent superseded issue of 1957 many changes have occurred in textile specifications. The direct effort at standardization has resulted in the combination and deletion of many specifications. New specifications representing the development of the synthetic to meet specific Military requirements have been added. In addition, many major changes have been implemented across-the-board under the Mandatory Contractor Inspection Program such as complete Quality Assurance Provisions in all specifications under the Point System.

The task of revising specifications requires that one keep abreast of changes in the state of the art, to add innovations such as the "Point System" in facilitating procurement, to standardize and improve on test methods, and to revise requirements and new requirements to meet changing Military needs.

In the use of this report, it is important to take into account the fact that specification requirements are subject to change. Such changes are reflected by issuance of amendments, new or revised specifications and/or interim procurement documents, or by deviations cited in Invitations to Bid. In this respect, it is essential that Invitations to Bid be carefully reviewed, as requirements stated at the time of actual procurement may supersede specification requirements stated herein.

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Approved:

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Cloth, Coated and Laminated, Chloroprene on Nylon	MIL-C-5302B	Sep. 1959	135
Cloth, Laminated, and Tape, Coated Cloth, Natural Rubber on Cotton, Pneumatic Flotation Equipment	MIL-C-6819C	Oct. 1959	136
Cloth, Coated, Synthetic and Fibrous Glass, Amd. 1	MIL-C-7514A (USAF)	Apr. 1955	137
Cloth, Coated, Asbestos	MIL-C-7637B (ASG)	Aug. 1961	138
Cloth, Coated, Cotton, Twill Weave, 1 Side Vinyl Resin Coated, Amd. 2	MIL-C-7642 (USAF)	Mar. 1957	139
Cloth, Coated, Rubber, Nylon Base, Amd. 1	MIL-C-7966A	Nov. 1962	140
Cloth, Coated, Nylon, Rubber Coated, Fuel-Resistant	MIL-C-8068B (ASG)	Jul. 1963	141
Cloth, Coated, Nylon Twill, Vinyl Coated Both Sides	MIL-C-8077	Apr. 1953	142
Cloth, Coated, Nylon, Buna N Coated, 1 Side	MIL-C-8135A (USAF)	Nov. 1956	142
Cloth, Asbestos, Glass, Cotton, Aluminized	MIL-C-8240B (USAF)	May 1960	143
Cloth, Laminated, Sateen, Rubberized	MIL-C-9074B (GL)	Jul. 1965	144
Cloth, Laminated and Coated for Waterproof Containers	MIL-C-10351B (GL)	Mar. 1965	144
Mattress, Pneumatic	MIL-M-10747E	Feb. 1963	145
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Cloth, Coated, Fire Resistant, Berth and Bedding Cover			
Amd. 1	MIL-C-15104C (SHIPS)	Oct. 1959	157
Cloth, Coated, and Webbing, Inflatable Boat and Miscellaneous Use, Amd. 1	MIL-C-17415E (SHIPS)	Apr. 1964	158
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Cloth, Coated, Nylon, Vinyl Coated (For Air Supported Shelters), Amd. 1	MIL-C-43086	Mar. 1965	186
Cloth, Coated (Chloroprene Base Coated, Chlorosulphonated Polyethylene Top Coated)	MIL-C-43285 (GL)	Oct. 1964	187
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Felt, Cattlehair or Wool: Mildew Resistant, and Moisture Resistant, Treated, Amd. 1	MIL-F-2312C	Mar. 1966	307
Yarn, Wool	MIL-Y-16654C	Mar. 1963	308
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Padding and Cover Set, Asbestos, Flatwork Ironer Roll	MIL-P-43219	Mar. 1964	311
Pad, Lithographic Plate Solution	MIL-P-43296 (GL)	Dec. 1964	312
Felt, Sheet, Nylon, Non-Woven (Needle Punched)	MIL-F-43310	Feb. 1965	312

ABSTRACT

Specification requirements for military fabrics and related military textile materials such as felts and cordage are summarized in tables which give details for yarn, texture, finish and key performance parameters. Included are finishing, after-treatment specifications and test methods.

This report brings up to date and adds to the data contained in Textile Series Report No. 102 dated December 1957 (Revised).

GENERAL NOTES

COTTON CLOTHES - WOVEN

The following parenthetical numbers are utilized throughout this section of the text as referenced notes. Upon observing these numbers, refer to this page for further information dealing with specific portions of the item.

- | | |
|---|---|
| (1) To be specified. | (9) Formula approval required. |
| (2) Nonfibrous, etc., restrictions. | (10) Bid sample and laboratory report. |
| (3) See specification for applicable tolerances. | (11) Width exclusive of selvage. |
| (4) Colormatching. | (12) Width inclusive of selvage. |
| (5) Preproduction sample. | (13) See specification for requirements after laundering. |
| (6) Restrictions on use of sulfur dyes. | (14) See specification for woven design and insignia requirements. |
| (7) See specification for weave diagrams and instructions. | (15) Use of dyestuffs which would cause deterioration in storage or cause dermatitis on prolonged skin contact is prohibited. |
| (8) Yarns of grade and ply and length of staple to meet requirements. | |

The specific test methods referenced in this section of the text are listed with their titles at the end of the section.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Perme- ability	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Perme- ability Max.	Point Value Max.
	Min Max				(5080) (5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)		
				W F	W F	W F		V F					

Bandanna, White Cotton (5610-5612) CCC-D-71

Type A	4.4 ± 2%	Conserva-	38 1/2	--	116	45	50						
Type B	5.2 ± 2%	tive	64 1/2		135	50	55						
Type C	5.2 ± 2%	Patterns	72 1/2		135	50	55						
Type D	5.5 ± 2%	(1)	72 1/2		78	76	64	74					
Type E	5.5 ± 2%	"	64 1/2		78	76	64	74					
Type F	5.5 ± 2%	"	72 1/2		78	78	64	74					

Bandanna, White Cotton (5610-5612) DDD-H-71A

Type I -	2.0 (3)	Plain	--	--	(3)	93	78	30	25				
Men's 17 x 17 in.													
Type II -													
Women's 11 x 11 in.	2.0 (3)	"				93	78	30	25				

Bandanna, White Cotton (5610-5612) DDD-H-74

Type I - Blue	2.2 ± 5%	Plain	--	--	(3)	57	57	34	20				
Type II - Red	2 ± 5%	"				57	57	34	20				

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
--------------	--------	----------------------------	---	---

CCC-D-71
Type A (2)
Type B Bleached and mercerized.
Type C Types D, E, and F finished to
Type D prevent linting after repeated
Type E washings, and to prevent loss of
Type F luster and body for mercerization.

DDD-H-71A (2)
Type I Mercerized and singed.
Type II Color (1) (6). (5)
Standard sample avail-
able for shade (4).
Colorfastness - Standard
sample available (5610-
5600-5651-5680-5682).

DDD-H-74
Type I Type I - Blue, with the
Type II usual bandanna handker-
chief designs in white.
Colorfastness - (5660-
5610-5651).

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min Max				W F	W F	W F	V F					
<u>Washcloth, Terry, Cotton</u>													
DDD-W-80b	16 (a dozen)	-	Single loop terry (7)	-	2 or 1 (1)	(3) 68 35	40 35						
<u>Cambric</u>													
CCC-C-81	2.4	-	Plain	(1)	--	100 90	50 32	5% 5%					
<u>Sateen; Cotton</u>													
CCC-S-91a													
Type I - Low Count	3.2	3.8	5-harness	(1)	--	66 98	30 30						
Type II - Medium Count	3.3	3.8	satin			84 130	35 40						
<u>Pajama-Check, Cotton</u>													
CCC-P-96			(7)										
Type I - 80 x 80	3.25	-	Pajama	35 1/2	1 1	85 72	40 26	1% 1%					
Type II - 88 x 88	3.50	-	check	32-3/4	1 1	94 80	52 35	1% 1%					
<u>Scrim; Curtain</u>													
CCC-S-121	2.8	-	Plain	36 1/2	2 2	24 22	30 24						

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
DDD-W-80b	(2) Decized and bleached white.	Color - Cloth shall be bleached white.		
CCC-C-81	Bleached and sized to a cambric finish.	Color (1).		
CCC-S-91a Type I Type II	(2) Clear, smooth, high luster finish.	Color (1). Colorfastness - (5660- 5610).		
CCC-P-96 Type I Type II	(2) Desized and calendered to produce a soft, smooth, nainsook finish.	Bleached and tinted bluish white.		
CCC-S-121		Color (1).	Designs (1).	

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effec- tivity	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
					(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
Bedspread, Cotton Or Cotton/Rayon Blend DDD-B-151e	Min. Max.				W F	W F	W F						
	(of finished bedspread)												
Type I - Crinkles													
Size 1 - 63 x 97	24.0 -	(7)		1 1	72 in	50 50							
Size 2 - 63 x 106	25.5 -	(7)		1 1	plain 62	50 50							
Size 3 - 72 x 97	27.0 -	(7)		1 1	ground	50 50							
Size 4 - 72 x 106	29.0 -	(7)		1 1	62 in crinkles strips	50 50							
Type II - Dimity													
81 x 103	32.5 -	(7)		1 1	70 60	75 45							
Type III - Herring- bone Stripes 56 x 86	23.0 -	(7)		1 1	68 38	80 50							
Type IV - Corded													
Size 1 - 63 x 103	38.0 -	(7)		1 1	65 32	85 70							
Size 2 - 76 x 103	45.0 -	(7)		1 1	incl. 32	85 70							
Size 3 - 76 x 113	47.0 -	(7)		1 1	the 32	85 70							
Size 4 - 90 x 113	57.0 -	(7)		1 1	cotton 32 cords.	85 70							

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
DDD-B-151e	(2)	Type I - Color (1). Colorfastness - (5660- 5612-5600).	(5)	Standard sample available as guide. Bedspreads shall be made of cotton/rayon blend when so specified by purchaser.
Type I		Type II - Bleached white. Marked for medi- cal procurement (1).		
Size 1		Type III - Color (1). Colorfastness - (5660- 5612-5600).		
Size 2		Type IV - Color (1). Colorfastness - (5660- 5612-5600).		
Size 3				
Size 4				
Type II				
Type III				
Type IV				
Size 1				
Size 2				
Size 3				
Size 4				

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure Low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5518)	
Cloth, Cotton, Chambray CCC-C-231f				W	F	W	F	W	F					

Type I - Mercerized Style A - 3.0 oz.	3.0	-	Plain	(1)	1	1	90	75	45	38		2%	2%	85%		26.00
Type II - Unmercerized Style A - 5.3 oz.	5.3	-	"	(1)	1	1	67	58	75	52				85%		32.00
Style B - 4.3 oz.	4.3	-	"	(1)	1	1	68	50	65	34				85%		32.00

Sheet, Bed, Cotton CCC-S-281f, Amd. 2

Type I - 140	4.5	-	Plain	(1)	--	74	66	70	70							(1)
Type II - 128	4.0	-	"	(1)	--	60	60	55	55							(1)
Type III - 180 (Percale)	3.5	-	"	(1)	--	92	88	60	60							(1)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-231f Type I Style A Type II Style A Style B	(2) Type I - Singed, desized and mer- cerized, with a clear lustrous finish (standard sample available). Type II - Regular commercial finish.	Color (1) - Standard Sample available (4-5). Colorfastness - Standard sample available. Type I - (5660-5610-5600 5680-5651). Type II - (5660-5610).	Dyed warps for Type I and Type II. Bleached filling for Type I. Natural white filling for Type II.	Intended Use - For the fabrication of clothing items.
DDD-S-281f Type I Type II Type III	(2)	Color (1). Colorfastness - Standard sample available (5600).	Size 1 45 in. 2 54 in. 3 54 in. 4 63 in. 5 63 in. 6 72 in. 7 72 in. 8 90 in.	Length Cut or Form 72 in. 90 in. 99 in. 99 in. 106 in. 106 in. 108 in. 114 in.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure Low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max												
DDO-C-301, (For) Milling Purposes (Remarks and Remarks) DDO-C-301, Am. 2														

Type I - Bleached
Class A - Short
lengths or
remnants $\frac{1}{2}$ 2 $\frac{1}{2}$ Plain (3)
20-40
Class B - Long
lengths $\frac{1}{2}$ 2 $\frac{1}{2}$ " 20-40
Type II - Unbleached
Class A - Short
lengths or
remnants $\frac{1}{2}$ 2 $\frac{1}{2}$ " 20-40
Class B - Long
lengths $\frac{1}{2}$ 2 $\frac{1}{2}$ " 20-40

Cloth, Cotton, Uniform Twill, Light Weight MIL-C-304D

Type I - 5.0 oz. Combed	4.5	5.5	2 rt. 2 twill	(1)	1	1	126	64	100	55	Preshrunk 1% 1% 80%	30.00 for dyed
Type II - 5.5 oz. Carded	5.5	6.0	2 rt. 1 twill	(1)	1	1	72	64	50	60	1% 1% 80%	35.00 for white
Type III - 5.5 oz. Combed	5.5	6.0	3 rt. 1 twill	(1)	1	1	116	58	150	50	1% 1% 80%	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
DDO-C-301 Type I Class A Class B Type II Class A Class B	Bleached or unbleached (1).		Class A - short lengths shall be of not less than 1 yard. Class B - long lengths shall be of not less than 10 yards.	
MIL-C-304D Type I Type II Type III	(2) Singed and mercerized, with a clear, lustrous finish.	Color (1) - Standard sample available (4-6). Colorfastness - Standard sample available - (5610-5600-5651-5680- 5682-5660).		Intended Use - Type I - In the manufacture of shirts. Type II - For pockets and various component parts. Type III - For utility shirts worn by female personnel of the Marine Corps.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(5050)	(5100)	(5450)	(5550)	(5110)	(5600)	(5514)	(5516)	
Cloth, Cotton, Bilasia					W F	W F	W F		V F					
MIL-C-326E				(11)										
Type I - 5.0 oz.	-	-	1	35	-	72	72	61	60					28.00
Type II - 4.0 oz.	-	-	2	35	-	72	72	50	30	2% 2%	80%			for dyed
Type III - 6.0 oz.	-	-	right or left hand twill	35	-	72	78	65	90	2% 2%	80%			32.00 for white

Cloth, Balloon, Cotton MIL-C-332E, And. I (GL)

Class 1 - Unbleached										Preshrunk (1)				
Type I - 3.9 oz.	-	3.90	Plain	(1)	1	1	124	118	70	70	1% 1%	85%		30.00
Type III - 2.25 oz.	-	2.25	"	(1)	1	1	116	124	40	40	1% 1%	85%		30.00
Type IV - 3.6 oz.	-	3.60	"	(1)	1	1	96	100	55	55	1% 1%	85%		30.00
Class 2 - Dyed and finished														
Type I - 3.9 oz.	-	3.90	Plain	(1)	1	1	126	112	63	63	1% 1%	85%	25(13) 30(13)	25.00
Type III - 2.25 oz.	-	2.25	"	(1)	1	1	120	120	35	35	1% 1%	85%		25.00
Type IV - 3.6 oz.	-	3.60	"	(1)	1	1	100	95	50	50	1% 1%	85%		25.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-326E Type I Type II Type III	(2) Singed and desized.	Color (1) - Standard sample available (4-6) Colorfastness - Standard sample available - (5622- 5680-5651).	Width of each selvage shall not exceed $\frac{1}{4}$ in.	Intended Use - In clothing and equipment items for personnel.
MIL-C-332E Class 1 Type I Type III Type IV Class 2 Type I Type III Type IV	(2) Class 1 - Unbleached. Class 2 - Singed before dyeing and finishing. Type I, Class 1, Types III & IV, Classes 1 and 2 - when specified, cloth shall be given a water- repellent finish. Type I, Class 2 - when specified, cloth shall be given an approved durable water-repellent treat- ment. Initial spray rating shall be 90, 90, 80 min. (5526). Down and feather retention - "satisfactory" (5530).	Color - Class 2 (1)- standard sample available (4-6). Colorfastness - Class 2 - standard sample available (5660-5622-5610-5600).		Intended Use - In the manufacture of clothing and equipment items. Type I - In sleeping bags.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Pl.	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Poz/21 Value Max.
	Min	Max				(5080)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
Cloth, Wind Resistant, Twill and Poplin, Cotton						W	F	W	F	W	F			
MIL-C-342E														

Type I - Twill Class C - Fire, water, mildew res.	5.8	7.0	2 right 2twill	(1)	2	2	185	90	160	70	3-7	Preshrunk 2% 2%	60%	40	28.00 dyed 32.00 white
Type II - Poplin Class A Plain fin. Class B - Quarpel treated	5.5	6.5	Plain	(1)	2	1-2	106	52	125	70	16	2% 2%	80%		
	6.0	7.0	"	(1)	2	1-2	106	52	116	60	-	2% 2%	80%	20(13)	35(13)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-342E Type I Class C Type II Class A Class B	(2) Singed, desized, mercerized, and dyed. Use of resin pigments in dyeing or finishing of Type II is prohibited. Type I, Class C shall be given an approved durable fire resistant treatment. Average time of after-flame - 2.0 sec. max. Average length of char - 5.5 in. max. Initially and after 3 cycles of laundering (5903-5556). The cloth shall be given an approved durable water repellent treatment. Type II, Class B shall be given an approved Quarpel-type water repel- lent treatment. Spray rating - 90, 90, 80 min. (5526). Use of materials other than approved water repellents and sodium acetate buffer (and acetic acid) is prohibited. Shall show no wetting by n-tetra- decane initially or after 15 laundings (4.4.2). pH: Type I, Class C - 5.5 min. Type II, Class B - 6.5-8.5 (2811).	Color (1) - standard sample available (4-6). Colorfastness - standard sample available. Type I Class C - (5651-5671). Type II, Classes A & B - (5610-5600-5651- 5622- 5680-5660).	Type I, Class C & Type II, Class B - (10). All types and classes - preproduction sample approval required when specified. Tearing strength shall be: Type I, Class C - 2.3 lb. min. in the warp and 1.5 lb. min. in the filling; Type II, Class A - 3.8 lb. min. in the warp and 3.3 lb. min. in the filling (5132).	Intended Use - In the manu- facture of clothing and equip- age items. Type I, Class C is not intended for uses as furniture coverings or items of clothing which involve pro- longed or frequent contact with the skin.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure Low range Min.	Water Permea- bility Max.	Point Value Max.
					(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
Cloth, Cotton, Avning CCC-C-406a	Min Max				W F	W F	W F						
Type I - Avning Cloth, Yarn-dyed Stripes	(3)	2 sin. W- yarns, sin. F	(3)					Weight lin. yd. (3)					
Class 1 - 8.42 oz.	8.4		31	1	1	61	28	150	70				20.32
Class 2 - 10.00 oz.	10.0	2 ply W & F	31	2	2	72	36	180	90				25.40
Class 3 - 12.00 oz.	12.0	"	31	2	2	72	38	210	90				25.40
Class 4 - 15.00 oz.	15.0	"	28½	2	2	68	34	240	120				25.40
Type II - Avning Cloth, Painted Stripes or Painted (Tinted) Solid Colors.	13.0	"	28½	2	2	54	42	170	120				25.40
Type III - Avning Cloth, Piece Dyed	10.1	"	28½	2	2	54	42	180	110				25.40

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-406a Type I Class 1 Class 2 Class 3 Class 4 Type II Type III	Mildew resistant. After weather- ing, cloth shall show no increase in mildew growth (5804-5760). Cloth shall show max. loss of 15% of breaking strength after wea- thering and mildew test. Water resistant. Water resistance of untreated (unfinished) cloth shall have not more than a leakage of 50 cc. at pressure indicated in table using test method indicated in specification, para. 3.7.	Color (1). Colorfastness - (5651- 5760). Pattern (1).		

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min Max				(5050) (5100)	(5450) (5550)	(5110) (5500)	(5514) (5516)					
Cloth, Duck, Cotton, Unbleached, Piled-Yarns, Army And Numbered CCC-C-419b													
Type I - Numbered Duck, Hard Texture:													
12/0	48.00 -	Plain	(1)	9	9	20	12	800	430				40.00
8/0	40.00 -	"	(1)	8	14	26.5	12.5	750	600				40.00
2/0	31.90 -	"	(1)	5	7	24	16	465	435				40.00
1/0	30.31 -	"	(1)	5	6	24	16	450	405				40.00
1	28.71 -	"	(1)	5	5	26	19	440	370	2			40.00
2	27.12 -	"	(1)	5	4	26	19	420	345				40.00
3	25.53 -	"	(1)	4	5	29	20	390	315				40.00
4	23.93 -	"	(1)	4	4	31	22	375	300	2			40.00
5	22.33 -	"	(1)	3	4	35	23	345	285				40.00
6	20.74 -	"	(1)	3	3	35	25	335	250	2			40.00
8	17.55 -	"	(1)	3	3	43	25	285	210	2			40.00
10	14.35 -	"	(1)	3	3	45	27	245	160	4			40.00
11	12.75 -	"	(1)	3	2	45	34	240	140				40.00
12	11.26 -	"	(1)	2	2	45	35	195	120	4			40.00
Medium Texture:													
1	28.71 -	"	(1)	5	5	26	15	425	345				40.00
2	27.12 -	"	(1)	5	4	26	15	410	320				40.00
3	25.53 -	"	(1)	4	5	29	15	370	315				40.00
4	23.93 -	"	(1)	4	4	29	17	350	290				40.00
5	22.33 -	"	(1)	3	4	34	18	315	285				40.00
6	20.74 -	"	(1)	3	3	34	18	305	250				40.00
Type III - Army Duck													
8.25	8.25 -	"	(1)	2	2	60	58	125	120				40.00
9.85	9.85 -	"	(1)	2	2	52	40	160	110	4			40.00
12.29	12.29 -	"	(1)	3	2	44	34	210	130	4			40.00
14.77	14.77 -	"	(1)	3	3	44	28	235	175				40.00
15.90	15.90 -	"	(1)	3	3	45	34	245	200				40.00
18.48	18.48 -	"	(1)	4	4	42	28	315	200				40.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-419b Type I Hard Texture Medium Texture Type III	(2) Unbleached.			Intended Use - In fabrication of tentage and equipage items.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.		Air Permea- bility	Shrink- age Max.	Seam Effic- iency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				W	F	W	F	W	F	V	F			
Cloth, Denim, Cotton, Shrink and Unshrink CCC-C-421a																
Type I																
Class 1 - Unshrink	8.04	-	2 right	(1)	1	1	62	39	145	53						40.00
Class 2 - Shrink	8.78	-	3-harness	(1)	1	1	63	42	145	58	Preshrunk 2% 2%					40.00
Type II																
Class 1 - Unshrink	8.95	-	"	(1)	1	1	66	43	150	65	Preshrunk					40.00
Class 2 - Shrink	9.75	-	"	(1)	1	1	67	46	150	70	2% 2%					40.00
Type III																
Class 1 - Unshrink	9.85	-	"	(1)	1	1	68	42	167	70	Preshrunk					40.00
Class 2 - Shrink	10.97	-	"	(1)	1	1	69	45	167	75	2% 2%					40.00
Type IV																
Class 1 - Unshrink	11.06	-	"	(1)	1	1	70	42	177	85	Preshrunk					40.00
Class 2 - Shrink	12.30	-	"	(1)	1	1	71	45	177	90	2% 2%					40.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-421a	(2)			
Type I	pH: 8.0-10.0.	Color (1) - Standard sample available (4).		Intended Use - In the manu- facture of clothing items.
Class 1		Style A - white-back cloth with dyed warp yarns & white or tinted filling yarns.		
Class 2		Style B - dyed warp & filling yarns.		
Type II		Colorfastness - Standard sample available - (5660- 5630-5610-561).		
Class 1				
Class 2				
Type III				
Class 1				
Class 2				
Type IV				
Class 1				
Class 2				

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min. (5514)	Water Permea- bility Max. (5516)	Pont Value Max.
	Min Max				(5050) (5100)	(5450)	(5550)	(5110)	(5500)				
Blanket, Bed (Other Than Wool) - (See also under Mixed Fiber Cloths) DDD-B-421e					W F	W F	W F	W F					

Type I - All cotton

Class 1 - Twill, double filling

Size 1 - 30x40 in.	7.8	9.0	(7)	-	(8)	30	35	23	15		11%	6%
Size 2 - 60x84 in.	3.0#	3.2#	(7)	-	(8)	37	36	30	25		11%	6%
Size 3 - 66x84 in.	3.3#	3.5#	(7)	-	(8)	37	36	30	25		11%	6%
Size 4 - 66x90 in.	3.45#	3.7#	(7)	-	(8)	37	36	30	25		11%	6%

Class 2 - Plain, single filling

Size 1 - 70x84 in.	1.2#	1.3#	(7)	-	(8)	35	24	28	15		12%	6%
Size 2 - 72x90 in.	1.5#	1.7#	(7)	-	(8)	27	28	27	17		12%	6%

Type II - Cotton warp wool filling (see under Mixed Fiber Cloths)

Type III - Blended nylon-wool-rayon- cotton and other fibers (see under Mixed Fiber Cloths)

Cloth, Cotton, Muslin

(Mercerized)

CCC-C-00422a (GSA-PSS) 5.0	-	Plain	35-36	1	1	53	46	60	60	Preshrunk 1% 1%	28.00
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NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
DDD-B-421e Type I Class 1 Size 1 Size 2 Size 3 Size 4 Class 2 Size 1 Size 2 Type II Type III	(2) Nap and hand - standard sample available.	Color - Type I (1) - standard sample avail- able (4). The wool shall be so selected as to avoid the presence of black fibers. Colorfastness - Type I - standard sample available (5600-5651). See specification for in- formation on marking (1).	Wool grade not lower than 44's, U.S.Std.	

CCC-C-00422a	(2) Mercerized, with a crisp, lust- rous finish - standard sample available. No change in appear- ance or hand after three launder- ings (5550).	Color (1) - standard sample available (4-6). Colorfastness - standard sample available - (5660- 5610-5680-5651).	(5)	Intended Use - As dress goods and suiting material.
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COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(5050)	(5100)	(5450)	(5350)	(5110)	(5500)	(5514)	(5516)	
Cloth, Birdseye And Gauze; Cotton CCC-C-425b				W	F	W	F	W	F	W	F			

Type I - Birdseye single layer	4.0	-	Sin. layer birdseye	26 1/2 27 1/2		60	48	40	60	20% total	80% min.		45.00
Type II - Gauze double layer	3.35	-	Dou. layer Plain, Bird- seye, or interlocking. (7).	39 1/2 40 1/2		total 7 1/2 sin. ply	45	25		20% total	80% min.		45.00

Cloth, Drill, Cotton CCC-C-426c

Type I - 30 in. 72x60, 2.50 yd.													
Class 1 - Greige	7.7	-	3 harness	(1)	1	1	72	60	130	90		80%	45.00
Class 2 - Desized and preshrunk	7.5	-	2 left 1 Twill	(1)	1	1	74	58	120	85	Preshrunk 2% 2%	80%	45.00
Class 3 - Bleached white or dyed and preshrunk	6.5	-	"	(1)	1	1	74	56	105	70	2% 2%	80%	35.00*
Type II - 30 in. 72x48, 2.50 yd.													
Class 1 - Greige	7.7	-	"	(1)	1	1	72	48	130	85		80%	45.00
Class 2 - Desized and preshrunk	7.5	-	"	(1)	1	1	74	46	120	72	Preshrunk 2% 2%	80%	45.00
Class 3 - Bleached white or dyed and preshrunk	6.0	-	"	(1)	1	1	74	44	105	62	Preshrunk 2% 2%	80%	35.00*

(Continued)

*42.00 for any bleached

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-425b Type I Type II	(2) Cleared and bleached.	Color - white.		Intended Use - In the fabri- cation of infant diapers.

CCC-C-426c Type I Class 1 Class 2 Class 3 Type II Class 1 Class 2 Class 3	(2)	Color - Classes 1 & 2 - natural color. Class 3 - (1) - standard sample available (4-6). Colorfastness - Class 3 - standard sample available - (5660-5610-5622-5651-5680).		Intended Use - In clothing and equipment items.
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(Continued)

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure Low range Min.	Water Permea- bility Max.	Point Value Max.
					(5050)	(5100)	(5450)	(5530)	(5110)	(5500)	(5514)	(5516)	
	Min Max				W F	W F	W F	W F					

Cloth, Drill, Cotton
CCC-C-426c (Cont'd)

Type III - 30 in. 72x48, 2.85 yd.													
Class 1 - Orange	6.7	-	3 harness	(1)	1	1	72	48	110	65			45.00
Class 2 - Desized and preshrunk	6.5	-	2 left 1 twill	(1)	1	1	74	46	130	60	Preshrunk 2% 2%	80%	45.00
Class 3 - Bleached white or dyed and preshrunk	6.0	-	"	(1)	1	1	74	44	90	55	2% 2%	80%	35.00*

Cloth, Duck, Cotton;
Fire, Water, Weather,
and Mildew Resistant
CCC-C-428d

Type I - Cloth fin. in Olive Drab #7.	See CCC-C-419, CCC-C-443, or MIL-C-2384 for basic cloth requirements, except that non-fibrous material for CCC-C-443 & MIL-C-2384 shall be as specified in 3.4.1.1.	Flexibility Initial bending moment After heating at 200°-205°F (bending moment in/lb, max.)	At 0° ± 5°F (bending moment in/lb, max.)		
Class 1 - Reg. fin.		CCC-C-419 cloth designations		50 ml.	40.00
Class 2 - Dry fin.				50 ml.	40.00
Type II - Cloth fin. in dark gray color	Weight of finished cloth shall be the actual weight of the gray cloth plus an allowance for treatment of 50% for a gray weight of 12 oz. or over and 65% for a gray weight of under 12 oz.	Numbered		50 ml.	40.00
Class 1 - Reg. fin.		2	0.16	0.400	0.400
Class 2 - Dry fin.		4	0.12	0.300	0.300
		6	0.06	0.180	0.180
		8	0.05	0.125	0.125
		10	0.03	0.075	0.075
		12	0.02	0.050	0.050
		Army Ducks			
		8.25	0.013	0.032	0.032
		9.55	0.013	0.032	0.032
		12.29	0.013	0.032	0.032

*42.00 for any bleached.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
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CCC-C-426c (Cont'd)

Type III
Class 1
Class 2
Class 3

CCC-C-428d

Type I
Class 1
Class 2
Type II
Class 1
Class 2

(2)
Compound to provide fire, water,
weather, and mildew resistance
shall be well ground and blended.
Compounds containing sulfur may
be used when approved (9).
Water resistance: water resis-
tance requirements p. main only
to those cloths of CCC-C-443
having weights of 14.90 and
17.55 oz/sq yd and to all ducks
of CCC-C-443 and MIL-C-2384.
Flame resistance - time of flaming
shall not exceed 2 sec. (5903T).
Average length of char shall not
exceed 4.5 in. for cloth with an
untreated weight of under 10 oz.;
3.5 in. for cloth of 10-20 oz.;
and 2.0 in. for cloth of over
20 oz. Mildew resistance -
Type I - an approved fungicide
shall be used - see 3.5.10.1.
Type II - an approved fungicide
shall be used.

Color (1) - standard (10)
sample available (4).
Color shall be obtained
by materials not appre-
ciably affected by
weathering (5671).
Colorfastness - standard
sample available (5671).
Crocking - Class 1 - max.
Munsell neutral value
of 5.0 (5651).
Class 2 - max. Munsell
neutral value of 7.0
(5651).

Intended Use - Class 1 - In the
manufacture of canvas covers,
tents, tarpaulins, and other
duck items providing protection
under conditions of prolonged
outdoor use.
Class 2 - As upholstery material
in motorized vehicles and uses
where a higher degree of resis-
tance to crocking is required.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
					(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
Cloth, Osnaburg, Cotton CCC-C-429b	Min Max				W F	W F	W F	W F					
Class 2	6.8 -	Plain	(1)	1 1	38 24	60 60							60.00
Class 3	5.4 -	"	(1)	1 1	32 26	50 50							60.00
Class 5	3.9 -	"	(1)	1 1	28 24	40 40							60.00

Cloth, Sheeting, Cotton CCC-C-430c, And. 1

Style A - #140													
Type I - Unbleached					(3)								
Class 1 - Unshrunk	4.7 -	Plain	(1)	carded	68 72	70 70							45.00
Class 2 - Shrunk	4.8 -	"	(1)	"	74 69	70 70		2% 2%					45.00
Type II - Bleached or dyed													dyed
Class 1 - Unshrunk	4.5 -	"	(1)	"	74 66	70 70							30.00
Class 2 - Shrunk	4.6 -	"	(1)	"	74 69	70 70		2% 2%					35.00
													white
Style B - #128													
Type I - Unbleached													
Class 1 - Unshrunk	4.1 -	"	(1)	"	64 64	55 55							45.00
Class 2 - Shrunk	4.2 -	"	(1)	"	70 63	55 55		2% 2%					45.00
Type II - Bleached or dyed													dyed
Class 1 - Unshrunk	4.0 -	"	(1)	"	68 60	55 55							30.00
Class 2 - Shrunk	4.1 -	"	(1)	"	70 63	55 55		2% 2%					35.00
													white
Style C - #180(Percal)													
Type II - Bleached													
Class 1 - Unshrunk	3.5 -	"	(1)	combed	92 88	60 60							35.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-429b Class 2 Class 3 Class 5	(2)	Color - natural.		Intended Use - As packaging, packing, and target cloth.
CCC-C-430c Style A Type I Class 1 Class 2 Style B Type I Class 1 Class 2 Style C Type II Class 1	(2) Type I - Unbleached. Type II - Bleached or dyed.	Color (1) - standard sample available (4-6). Colorfastness - standard sample available for dyed cloth (5660-5610- 5600-5651).		Intended Use - In clothing, bedding material, and equipage items.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Plg	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
					(5050)	(5100)	(5150)	(5550)	(5110)	(5500)	(5514)	(5516)	
Cloth, Cotton, Sheeting, Min (Unbleached, Bleached, And Dyed)	Min				W	F	W	F	W	F			
CCC-C-432b													
Type I													
Class 1 - Unbleached	3.4	-	Plain	(1)	1	44	46	40	35				45.00
Class 2 - Bleached, dyed	3.2	-	"	(1)	1	46	38	37	32	7.5%	2.0%	80%	35.00
Class 3 - Bleached, dyed preshrunk	3.5	-	"	(1)	1	48	42	38	33	2.0%	2.0%	80%	35.00
Type II													
Class 1 - Unbleached	3.3	-	"	(1)	1	56	48	44	29				45.00
Class 2 - Bleached, dyed	3.1	-	"	(1)	1	58	46	41	26	7.5%	2.0%	80%	35.00
Class 3 - Bleached, dyed preshrunk	3.4	-	"	(1)	1	60	50	42	27	2.0%	2.0%	80%	35.00
Type III													
Class 1 - Unbleached	3.8	-	"	(1)	1	48	48	48	35				45.00
Class 2 - Bleached, dyed	3.6	-	"	(1)	1	50	46	44	32	7.5%	2.0%	80%	35.00
Type IV													
Class 1 - Unbleached	4.3	-	"	(1)	1	48	44	55	40				45.00
Class 2 - Bleached, dyed	4.1	-	"	(1)	1	50	42	52	37	7.5%	2.0%	80%	35.00
Class 3 - Bleached, dyed preshrunk	4.4	-	"	(1)	1	52	46	54	38	2.0%	2.0%	80%	35.00
Type V													
Class 1 - Unbleached	4.0	-	"	(1)	1	56	60	45	40				45.00
Class 2 - Bleached, dyed	3.8	-	"	(1)	1	58	58	41	37	7.5%	2.0%	80%	35.00
Class 3 - Bleached, dyed preshrunk	4.1	-	"	(1)	1	60	62	43	38	2.0%	2.0%	80%	35.00

(Continued)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-432b	(2)	Color - Classes 2 & 3		Intended Use - In the manufacture of clothing and equipage items.
Type I	When Class 1 or Class 2 cloth is specified for use as the base	(1) - standard sample available (4-6).		
Class 1	cloth for coating, the cloth shall be singed, scoured, and calendered.	Colorfastness - standard sample available for dyed cloth - (5660-5600- 5610-5680-5651).		
Class 2	It shall contain not more than 0.003% copper or 0.0015% manganese (D-377, ASTM manual).			
Class 3	Mildew resistance - Class 2 (1)			
Type III	cloth shall be made to conform to finished requirements of Class D of CCC-D-950, except that the require- ment for colorfastness, as specified, shall not apply. Treatment shall be in accordance with inhibitor (a) of CCC-C-950. Water repellency and mildew resistance - Class 2 (1)			
Type IV	shall be made to conform to the finished requirements of Class P of CCC-D-950, except that the requirements for hydrostatic resis- tance and colorfastness as speci- fied shall not apply. Treatment shall be in accordance with inhibitor (a) of CCC-D-950.			
Type V				
Class 1				
Class 2				
Class 3				
(Continued)				

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Perme- ability	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Perme- ability Max.	Point Value Max.
					(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
Cloth, Cotton, Sheeting, (Unbleached, Bleached, And Dyed)	Min Max				W F	W F	W F		W F				

CCC-C-432b (Cont'd)

Type VI													
Class 1 - Unbleached	4.6	-	Plain	(1)	1	1	64	68	55	50			45.00
Class 2 - Bleached, dyed	4.4	-	"	(1)	1	1	66	66	50	47	7.5% 2.0% 80%		35.00
Class 3 - Bleached, dyed preshrunk	4.7	-	"	(1)	1	1	68	68	51	48	2.0% 2.0% 80%		35.00
Type VII													
Class 1 - Unbleached	5.0	-	"	(1)	1	1	46	48	60	50			45.00
Class 2 - Bleached, dyed	4.8	-	"	(1)	1	1	50	46	56	47	7.5% 2.0% 80%		35.00
Class 3 - Bleached, dyed preshrunk	5.1	-	"	(1)	1	1	52	48	57	48	2.0% 2.0% 80%		35.00
Type VIII													
Class 1 - Unbleached	5.6	-	"	(1)	1	1	48	48	65	55			45.00
Class 2 - Bleached, dyed	5.4	-	"	(1)	1	1	50	46	61	52	7.5% 2.0% 80%		35.00
Class 3 - Bleached, dyed preshrunk	5.7	-	"	(1)	1	1	52	48	62	53	2.0% 2.0% 80%		35.00

Cloth, Cotton, Sheeting
(Laundry Cover Cloth)
CCC-C-432c

Class 1 - 72 in. wide	6.9	7.3	Plain	(3)	72	1	1	56	58	85	100		35.00
Class 2 - 90 in. wide	6.9	7.3	"	nom. 90 nom.	90	1	1	56	58	85	100		35.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
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CCC-C-432b (Cont'd)

Type VI
Class 1
Class 2
Class 3
Type VII
Class 1
Class 2
Class 3
Type VIII
Class 1
Class 2
Class 3

Intended Use - The cloth of
Types VI, VII and VIII in Class
1 or 2 may be used as base
material for coated fabrics.

CCC-C-435b
Class 1
Class 2

(2)

Color - Unbleached.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effic- iency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
					(5030)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
Cloth, Ticking Twill, Cotton	Min Max				W F	W F	W F	W F					
CCC-C-436c													

Type I - 9 oz/sqyd													
Class 1 - Untreated	8.5 9.5	3	twill (1-3)	1 1	78 62	135 90							35.00
Type II - 7 oz/sqyd													
Class 1 - Untreated	6.5 7.5	2	twill (1-3)	1 1	70 44	110 60							35.00
Class 2 - Treated	6.5 +130%	1	(1-3)	1 1	70 39.6	93.5 51		Preshrunk 2% 2%					35.00
					min min	min							

Cloth, Cotton, Broad- cloth, Mercerized

CCC-C-437b													
Type I - 140x74	3.5 -	Plain	(1)	1 1	148 74	74 28		Preshrunk 1% 1% 85%					
Type II - 140x56	3.2 -	"	(1)	1 1	140 56	65 25		1% 1% 85%					
Type III - 132x64	3.2 -	"	(1)	1 1	132 64	75 30		1% 1% 85%					
Type IV - 116x56	3.2 -	"	(1)	1 1	116 56	60 25		1% 1% 85%					
Type V - 102x56	3.2 -	"	(1)	1 1	102 56	55 25		1% 1% 85%					
Type VI - 82x56	2.8 -	"	(1)	1 1	82 56	30 25		1% 1% 85%					
Class 1 - Bleached													
Class 2 - Unbleached													
Class 3 - Dyed													

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-436c	(2) Type II, Class 2 shall be given an approved flame-resistant treatment. Average flaming time 2.0 sec. max. (5903T). Average length of char 5.0 in. both initially and after 15 launderings (5903T).	Color - Alternating natural white & blue "dyed" warp stripes, which may be either solid or broken by white warp ends. The white stripe shall be about 1/4 in. wide & the blue stripe shall be about 3/16 in. wide - standard sample avail- able (4). Colorfastness - standard sample available (5630).		Intended Use - In the manufacture of mattress and pillow covers. Type I - For pillows containing feathers or down, and mattresses containing hair. Type II - For all other mattresses.
CCC-C-437b	(2) Singed, desized, and mercerized, with a clear, lustrous finish. Class 1 shall be bleached.	Color (1) - standard sample available (4-6). Colorfastness - standard sample available - (5660- 5600-5630-5651-5610).		Intended Use - In the manufacture of men's and women's shirts.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effic- lency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min Max				(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	

Cloth, Cheesecloth,
Cotton, Bleached And
Unbleached

CCC-C-440c

		W F		W F		W F		W F					
Type I - 44x36													
Class 1 - Unbleached	1.60 1.88	Plain		(12)		(a)		22 10		41-47 33-39 76-84		70.00	
Class 2 - Bleached	1.35 1.59	"		38 1/2		-		20 9		41-47 33-39 76-84		60.00	
Type II - 28x24													
Class 1 - Unbleached	0.98 1.16	"		36				10 5		26-30 22-26 49-55		70.00	
Class 2 - Bleached	0.87 1.03	"		36				8 4		26-30 22-26 49-55		60.00	

(a) Yarns/Inch (3)

W	F	Total
41-47	33-39	76-84

Cloth, Corduroy, Cotton

CCC-C-441a

Type I - Unbleached, unshrunk													
Class 1	8.5 -	Single or		(1)		Single		45 126 65 60		Wales/in. min.		45.00	
Class 2	10.5 -	Double tie		(1)		or ply		58 142 76 74		14		45.00	
Type II - Dyed and shrunk													
Class 1	7.2 -	"		(1)		"		46 126 60 55		Preshrunk 5% 3%		15	
Class 2	9.5 -	"		(1)		"		59 142 70 66		5% 3%		12 1/2	

Cloths, Polishing

DDD-C-441b

3.5 - -- -- 1 1 45 42 25 11

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-440c Type I Class 1 Class 2 Type II Class 1 Class 2	Class 1 - Unbleached. Class 2 - Bleached.			Intended Use - In items of clothing and for polishing and cleaning operations.
CCC-C-441a Type I Class 1 Class 2 Type II Class 1 Class 2	(2) Type I - Unbleached and unshrunk. Type II - preshrunk.	Color - Type I - natural. Type - (1) - standard sample available (4-6). Colorfastness - standard sample available for dyed and finished cloth - (5660-5610-5600-5680-5651).	(a) For double tie type the minimum number of warp yarns shall be twice that here specified.	Intended Use - In the manufacture of clothing items.
DDD-C-441b	Soft finish; lightly napped on both sides.	Any color or colors.		

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Min.	Point Value Max.
	Min Max				(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
Cloth, Duck, Cotton Bleached CCC-C-442b					W F	W F	W F	W F					
Type I	5.0 -	Plain 1up/ldown	(1)	2	2	77	44	130	75	2% 2%			35.00
Type II	7.0 -	(7)	(1)	1	2	88	28	110	60	2% 2%			35.00
Type III	8.2 -	Plain 1up/ldown	(1)	2	2	58	48	135	100	2% 2%			35.00
Type IV	8.5 -	(7)	(1)	1	4	112	32	120	120	2% 2%			35.00
Type V	7.0 -	Plain 1up/ldown	(1)	2	2	52	34	80	48	2% 2%			35.00

Cloth, Cotton, Duck;
(Single and Plied
Filling Yarns, Flat)
CCC-C-443b, Amd. 1

Type I - Single Fill.	7.26 -	Oxford	(1)	1	1	74	27	90	55	-			40.00
	8.47 -	2 ends	(1)	1	1	74	27	100	65	-			40.00
	10.00 -	weaving	(1)	1	1	74	27	130	85	-			40.00
	10.89 -	as cons-	(1)	1	1	74	26	135	95	-			40.00
	12.10 -	Plain	(1)	1	1	72	26	160	105	-			40.00
	13.32 -		(1)	1	1	72	26	165	110	-			40.00
	14.53 -		(1)	1	1	72	25	170	120	-			40.00
	14.90 -		(1)	1	1	76	28	180	160	-			40.00
	17.55 -		(1)	1	1	96	27	270	245	4			40.00
	18.15 -		(1)	1	1	72	25	180	140	3			40.00

(Continued)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-442b Type I Type II Type III Type IV Type V	(2) Desized, singed, bleached, and mercerized.	Color - chemically white - standard sample available (4). May be supplemented with fluorescent optical brightener. Colorfastness - standard sample available - (5660).		Intended Use - Types I, II and III - for use in white uniforms. Type IV - In dress uniform trousers of U.S. Military Academy cadets. Type V - as the base cloth for Smock, Man's, Dental, Operating; and Smock, Man's, Medical Assis- tant.
CCC-C-443b Type I (Continued)	(2) Unbleached.		(a) Two yarns woven as cons.	Intended Use - In the fabrication of tentage and related items.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
					(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	

Cloth, Cotton, Duck;
(Single and Plied)
Filling Yarns, Flat)
CCC-C-443b, Amd. 1
(Cont'd)

Min Max

W F

W F

W F

W F

Type II - Double
filling (plied)

7.26 -	Oxford,	(1)-1	1	2	86	30	100	60	-				40.00
8.47 -	2 ends	(1)-1	1	2	86	30	115	85	-				40.00
9.68 -	weaving	(1)-1	1	2	86	30	125	100	-				40.00
10.89 -	as one -	(1)-1	1	3	84	30	140	110	-				40.00
12.10 -	Plain	(1)-1	1	3	84	30	150	115	-				40.00
13.32 -		(1)-1	1	4	84	29	165	135	-				40.00
14.53 -		(1)-1	1	4	82	29	180	160	-				40.00
18.15 -		(1)-1	1	5	82	25	195	190	-				40.00

Cloth, Cotton, Jean
(Bleached)
CCC-C-444b

4.7 -	2 twill	(1)			98	60	85	48		Preshrunk 1% 1%			35.00
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Cloth, Muslin, Cotton
CCC-C-446d, Amd. 2

Type I

Class 1 - Unbleached	2.7 -	Plain	(1)	1	1	64	58	37	26	9%	9%		45.00
Class 2 - Bleached or dyed	2.4 -	"	(1)	1	1	66	52	34	20	6%	6%		dyed- 30.00
Class 3 - Bleached or dyed preshrunk (Continued)	2.5 -	"	(1)	1	1	68	5	36	22	1%	1%		white- 35.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
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CCC-C-443b (Cont'd)
Type II

CCC-C-444b (2)
Singed, desized, and bleached.

Intended Use - In the manufacture
of clothing and equipage items.

CCC-C-446d (2)
Type I
Classes 2 and 3 cloth shall be
singed.

Color (1) - standard
sample available (4-6).
Colorfastness - standard
sample available for dyed
cloth - (5610-5600-5660-
5680-5651).

Intended Use - In clothing,
flags and equipage items.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.		Air Permea- bility	Shrink- age Max.	Seam Effic- iency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				W	F	W	F	W	F	W	F			
Cloth, Muslin, Cotton CCC-C-446d, Amd. 2 (Cont'd)																
Type II																
Class 1 - Unbleached	3.1	-	Plain	(1)	1	1	68	70	42	34		9%	9%			45.00
Class 2 - Bleached or dyed	2.7	-	"	(1)	1	1	70	64	38	28		6%	6%			dyed- 30.00
Class 3 - Bleached or dyed preshrunk	2.8	-	"	(1)	1	1	72	68	40	30		1%	1%			white- 35.00
Type III																
Class 1 - Unbleached	3.4	-	"	(1)	1	1	78	76	46	39		9%	9%			45.00
Class 2 - Bleached for dyed	2.9	-	"	(1)	1	1	80	70	45	32		6%	6%			dyed- 30.00
Class 3 - Bleached for dyed preshrunk	3.0	-	"	(1)	1	1	83	74	44	34		1%	1%			white- 35.00
Type IV																
Class 1 - Unbleached	2.4	-	"	(1)	1	1	38	36	27	20		9%	9%			45.00
Type V																
Class 1 - Unbleached	3.9	-	"	(1)	1	1	56	60	44	50		9%	9%			45.00
Type VI																
Class 2 - Bleached or dyed	2.4	-	"	(1)	1	1	64	56	35	25		6%	6%			dyed- 30.00 white- 35.00
Type VII																
Class 2 - Bleached or dyed	3.1	-	"	(1)	1	1	35	72	45	30		6%	6%			dyed- 30.00 white- 35.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-446d (Cont'd)				
Type II				
Class 1				
Class 2				
Class 3				
Type III				
Class 1				
Class 2				
Class 3				
Type IV				
Class 1				
Type V				
Class 1				
Type VI				
Class 2				
Type VII				
Class 2				

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
					(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
Cloth, Cotton, Percale CCC-C-447b	Min - Max 3.0 -	Plain	(1)	W F 1 1	W F 85 72	W F 45 30		W F 1% 1% Freshrunk					30.00 dyed 35.00 white

Cloth, Cotton, Searsucker CCC-C-448b

Type I - Narrow Stripe

Class 1 - 82x86 tex. 4.0 - Plain (1) 1 1 82 86 24 45

Freshrunk
4% 2%

Slack Beam Take-up min.

40%

Type II - Medium stripe

Class 1 - 112x80 tex. 4.0 - (1) 1 1 112 80 30 40
Class 2 - 80x80 tex. 4.0 - (1) 1 1 80 80 30 40

4% 2%
4% 2%

40%
30%

slack W
weaving
2 ends
as 1

Type III - Stripe pattern effect

Class 1 - 280x72 tex. 4.0 - Plain (1) 1 1 280 72 25 30
per
repeat
(2-5/8 in)

4% 2%

40%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-447b	(2) Singled, bleached, or dyed. May be calendered.	Color (1) - standard sample available (4-6). Colorfastness - standard sample available - (5660- 5610-5622-5651).		Intended Use - In the manufacture of clothing.
CCC-C-448b Type I Class 1 Type II Class 1 Class 2 Type III Class 1	(2) Singled, desized, and bleached. When bleached warp and filling yarns are used for the undyed yarns, yarn or piece bleaching is optional.	Color (1) - standard sample available (4-6). Colorfastness - standard sample available - (5660- 5610-5600-5680 or 5682- 5651). See specification for special instructions on stripe or pattern effects.	(a)Slack beam warp yarn for Type I, Class 1 cloth and tight beam warp yarn for Type II, Class 2 cloth shall be two-ply.	Intended Use - In clothing items.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min Max				(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
Cloth, and Cloths, Hafila, Cotton					W F	W F	W F	W F					
CCC-C-00450 (GSA-FSS)													
Size 1 - 18x36 in.	6.5 -	Honeycomb		2 2	37 24	55 45							
Size 2 - 36x36 in.	6.5 -	weave		2 2	37 24	55 45							
Roll - 28 in. wide	6.5 -	(dotby)		2 2	37 24	55 45							
Roll - 36 in. wide	6.5 -			2 2	37 24	55 45							

Cloths, Polishing
(For Electrical
Contact Surfaces)
DUD-C-450a

7.0 - 1 1 50±2 38±2 25 17

Cloth, Cotton,
Fajama-Check
CCC-C-00455 (GSA-FSS)

Type I - 88x88 3.5 - Fancy Bas- 36 1 1 94 80 52 35 Freshrunk
ket Weave 1% 1%
(7).

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thict, less tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-00450 Size 1 Size 2 Roll - 28 Roll - 36	Unshrunk and unbleached or bleached. Cloth shall be absorbent to water (4.4.1).			
DUD-C-450a	Soft finish; lightly napped on both sides. Cloth shall be finished by dipping in a silica-base compound until thoroughly impregnated.	Color - white (bleached) (5)		
CCC-C-00455 Type I	(2) Desized, bleached, tinted a bluish white, and calendered to produce a soft, smooth nainsook finish.			Intended Use - In the fabrication of undergarments and pajamas.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effic- iency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)		
Cloth, Flannel, Cotton CCC-C-458a						W	F	W	F	W	F				
Type I - Plain weave (soft filled sheet- ing) unbleached, napped one side															
Class 1	4.7	-	Plain	(1)	1	1	42	40	26	21	single napped	Freshrunk 2% 2%			32.00
Type II - Plain weave (soft filled sheet- ing) unbleached, napped both sides															
Class 1	4.6	-	"	(1)	1	1	42	40	26	19	double napped				32.00
Type III - Plain weave (cutting flannel) bleached or dyed, napped both sides															
Class 1	3.5	-	"	(1)	1	1	42	40	20	17					Bleached 28.00
Class 2	4.0	-	"	(1)	1	1	42	40	23	19					dyed- 25.00
Class 3	4.6	-	"	(1)	1	1	50	40	28	23	Freshrunk (1) 2% 2%				"
Type IV - Twill weave (canton flannel) unbleached, napped on the filling side															
Class 1	5.0	-	3' or 4 har-	(1)	1	1	62	38	45	20					32.00
Class 2	6.0	-	ness twill	(1)	1	1	62	38	60	25					32.00
Class 3	7.0	-	"	(1)	1	1	62	38	60	30					32.00
Class 4	8.0	-	"	(1)	1	1	62	38	65	40					32.00
Class 5	10.0	-	"	(1)	1	1	60	34	100	50					32.00
Class 6	12.0	-	"	(1)	1	1	60	34	100	70					32.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-458a	Type I - napped on one side. Type II - napped on both sides. Type III - napped on both sides. Type IV - napped on the filling side.	Color - Types I, II and IV - unbleached. Type III (1) - standard sample available (4-6). Colorfastness - standard sample available for dyed cloth - (5610-5651-5680).		Intended Use - In the manufacture of pajamas, gloves, the back of gloves, glove lining, padding for front interlining in coats and interlining in caps.
Type I				
Class 1				
Type II				
Class 1				
Type III	Type IV, Class 3 shall be singed on the unnapped side when speci- fied. Standard samples available for finishes.			
Class 1				
Class 2				
Class 3				
Type IV				
Class 1				
Class 2				
Class 3				
Class 4				
Class 5				
Class 6				

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effec- tency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
Cloth, Cotton, Flannel (Heavy, For Table Felts)						W	F	W	F	W	F			
CCC-C-460	12.5	-	Filling reversible weave (7)	(1)		66	42	60	30					

Cloth, Uniform Twill Cotton

CCC-C-461a														
Type I	7.9	8.6	3 right 1 twill	(1)	2	2	116	56	180	120	1%	1%	80%	dyed- (25.00 (35.00 white
Type II	7.9	8.6	"	(1)	2	1	116	56	180	110	1%	1%	80%	"
Type III	7.7	8.4	3 left 1 twill	(1)	1	1	112	54	160	110	1%	1%	80%	"
Type IV	7.2	7.9	"	(1)	1	1	100	54	160	110	1%	1%	80%	"
Type V	7.2	7.9	"	(1)	1	1	100	54	150	100	1%	1%	80%	"
Type VI	8.2	8.6	"	(1)	1	1	112	56	170	80	1%	1%	80%	"

Cloth, Squeeze, Dental

DDD-C-00475(DSA-DM)														
Style 1 - Round	2.75	-					74	74	36	36				
Style 2 - Square	2.75	-					102	52	55	32				

(fin. cloth, jaws
at initial distance
of 1 inch)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-C-460	Unbleached. Full nap on both sides.			
CCC-C-461a Type I Type II Type III Type IV Type V Type VI	(2) Singed, desized, and mercerized. White cloth shall be singed, desized, mercerized and bleached.	Color (1) - standard sample available (4-6). When white is specified, cloth shall be bleached and tinted to match std. sample. Colorfastness - standard sample available for dyed cloth (5660-5610-5600- 5680-5651).		Intended Use - In clothing and equipment items.
DDD-C-00475 Style 1 Style 2				

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
					(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
Cloth, Wind Resistant Oxford, Quarpel treated MIL-C-484E	Min Max				W F	W F	W F	W F					
Type I	6.5 -	Oxford	(1)	1	1	130	54	135	50	Preshrunk 2% 2% 80%	Initial (13) 25	Initial (13) 35	28.00
Type V	9.0 -	(2 ends weaving as 1)	(1)	2	1	128	48	200	95	2% 2% 80%	25	35	28.00
Type VI	5.5 -		(1)	2	1	196	86	180	80	2% 2% 80%	25	35	28.00

Towels, Cotton, For Glassware DDD-T-501c

Class A - Plain weave	5.1 -	Plain				54	38	50	50				
Class B - Plain weave with 5-harness 4/1 woven stripe	5.5 -	Plain with warp stripe produced with a 5- harness, 4/1 weave				36	29	50	40				

Cloth, Poplin, Cotton MIL-C-507E

4.5	5.0	Plain	(1)	2	1	106	48	110	50	Preshrunk 2% 2% 85%			dyed- 28.00 32.00 white
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NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-484E Type I Type V Type VI	(2) The cloth shall be given an approved Quarpel type, water-repellent treatment. Initial spray rating shall be 90, 90, 80. (5526). Cloth shall be singed, scoured, and mercerized. pH: 6.5-8.5.	Color (1) - standard sample available (4-6). Colorfastness - standard sample available (5610-5600-5651-5690-5660).	Stiffness - Type VI - max. flex-stiffness shall be 0.00050 in/lb for the warp and 0.0005 in/lb for the filling (5206).	Intended Use - In clothing where a high degree of wind resistance and water resistance is of prime importance.
DDD-T-501c Class A Class B		Color - towels shall be bleached white except for the stripes in Class A, which shall be either Turkey red or blue. Colorfastness - "good" (5600-5610).	(14)	Intended Use - Primarily for drying glassware.
MIL-C-507E	(2) Singed, desized, and mercerized, with a clear lustrous finish.	Color (1) - standard sample available (4-6). When white is specified cloth shall be bleached and may be supplemented with fluorescent optical brightener. Colorfastness - standard sample available (5660-5610-5600-5690-5651).		Intended Use - In the manufacture of clothing items.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
Towel or Dishcloth (Crash, Cotton, and Cotton and Linen-Mixed); Cloth, Crash, Cotton DDD-T-511c (See also under Mixed Cloths)						W	F	W	F	W	F			
Type I - Towel or dishcloth Class 1 - Cotton warp & linen filling (unbleached)														
Class 2 - All cotton (bleached)														
Size 1 - 17x30 in.	5.8	-		Plain		38	30	50	40					
2 - 17x36 in.	5.8	-		"		38	30	50	40					
3 - 17x14 1/2 in.	5.8	-		"		38	30	50	40					40.00
Type II - Cloth, crash, cotton (bleached)	5.8	-		"		38	30	50	40					

Towel, Hand and Cloth, Cotton, Huck DDD-T-531d

Type 1 - Hand towel	2.55	-	Huck(7)	(3)	(a)	17	1 or 2	52	26	70	60
Class 1 - With woven design and stripe	(1b/doz for 17x36 in.)								(as sin. or 52 in pairs)		
Pattern 1 - U.S. Government Color a - White											
Pattern 2 - Medical Color a - Green Color b - Gray (Continued)											

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
DDD-T-511c Type I Class 1 Class 2 Size 1 Size 2 Size 3 Type II	(2) Cloth shall be scoured and bleached.	Color - cloth shall be bleached. When speci- fied, towels shall have woven, colored stripes 3/16 to 5/16 in. wide, located 7/16 to 9/16 in. from each selvage edge. Colorfastness - Stripes: "good" (5610-5600).	Rate of absorbency: height of rise of colored water shall be a min. of 6 cm. in 5 min. in both W and F.	
DDD-T-531d Type I Class 1 Pattern 1 Color a Pattern 2 Color a Color b (Continued)	(2)	Color - color of towels and toweling shall be bleached or dyed as specified. (6). Std. samples available (4). Colorfastness - for dyed towels and towel- ing and for colored stripe in bleached towels - standard sample available (5600-5610).	(5)(14).	

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effic- iency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
Towel, Hand and Cloth, Cotton, Huck														

DDD-T-531d (Cont'd)

			(3)	(a)										
Class 2 - Without woven design & stripe	2.55 -	Huck(7)	17	1 or 2	52	26	70	60						
Color a - White	(lb/doz for													
Color b - Green	17x36 in.)													

Type II - Cloth, cotton, huck	3.35 -	Huck(7)	(3) 17	1 or 2	52	26	70	60						
	oz/lin yd													

Towels, Machinery
Wiping (Laundered)
DDD-T-539

Sizes: 18x18 in.	6.0±0.2				28	18		
18x30 in.	6.0±0.2				28	18		

Towel, Machinery
Wiping
DDD-T-541c

Size 1 - 16½x18 in.	5.5 -	Plain	1	1	28	18	40	75
Size 2 - 18x30 in.	5.5 -	"	1	1	28	18	40	75

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
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DDD-T-531d (Cont'd)
Class 2
Color a
Color b
Type II

DDD-T-539 (2)
Sizes: 18x18 in. Towels shall be laundered & dried
18x30 in. by the best commercial processes
& shall be free of paint, oil,
grease, metal, plastic or other
foreign objects, & shall have no
objectionable odor.

Towels shall be free of
torn, frayed, or tattered
edges, and not less than
97% of the area of each
towel shall be free from
holes.
Absorbency: ave. time
of saturation shall be
10 sec. max. (4.4.2).
Capillarity: ave. time
of water to rise 1 in.
shall be 40 sec. max.;
to rise 2 in. shall be
90 sec. max. (4.4.3).

Intended Use - This specifica-
tion is intended to define
quality of towels received
from commercial laundry
facilities.

DDD-T-541c (2)
Size 1 Towels may be bleached or un-
Size 2 bleached as specified.

(5)

Intended Use - Primarily for
use in cleaning machinery
and mechanical components.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effic- iency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
					W	F	W	F	W	F	W	F		

Towel, Bath, Cotton
Terry
DDD-T-00551r(GL)

Type I - Sin. loop														
Class 1 - 20x40 in.	(1b/doz)		(7)											
	5.5	-	Terry		1	1	72	32	75	70				
Type II - Dou. loop														
Class 1 - 22x44 in.	8.5	-	"		1	1	84	42	45	40				
Class 2 - 16x27 in.	3.0	-	"		1	1	84	42	45	40				
Class 3 - 16x27 in.	3.65	-	"		1	1	84	42	45	40				
Class 4 - 20x40 in.	5.5	-	"		1	1	71	32	45	40				

Style A - Selvage
edge both sides

Style B - One sel.
edge, one hemmed

Cloth, Wind Resistant
Sateen, Cotton
MIL-C-557E

Type I	9.0	-	5 harness sateen(7)	(1)	2	2	112	68	150	125	Preshrunk 1% 1% 80%	Initial (13) 25	Initial (13) 35	25.00
Type II	7.0	-	"	(1)	2	1	120	88	130	105	1% 1% 85%	25	35	25.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
DDD-T-00551r(GL) Type I Class 1 Type II Class 1 Class 2 Class 3 Class 4 Style A Style B	(2)	Color - towels shall be bleached white or dyed as specified. Standard sample available (4-6). Colorfastness - standard sample available (5600- 5610).	When design (non- military) is required, it shall be as specified.	

MIL-C-557E Type I Type II	(2) Singed, desized, & mercerize., & dyed, & given a water-repellent treatment. Initial spray rating 90, 90, 80 (5526). Type I - finished with filling effect side as face. Type II - finished with warp effect side as face.	Color (1) - standard sample available (4-6). Type I - matched with filling effect side used as face. Type II - matched with warp effect side used as face. Colorfastness - standard sample available (5610- 5600-5680-5651-5660).	Type I - filling effect side shall be stamped in ink, to identify the face of the cloth.	Intended Use - In clothing where a high degree of wind and water resistance is of prime importance.
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COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effic- lency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min Max				W F	W F	W F	W F					
<u>Toweling; Cotton,</u>													
<u>Glass</u>													
CCC-T-561	5.3 - + any - 3%	Plain	16 ±1/2		54 38	50 50							
					+ any - 2								
<u>Prints; Cotton</u>													
CCC-P-651													
Type I	2.7 -	Plain	35 1/2 ±1/2		72 64	52 32		Preshrunk 1% 1%					
Type II	2.4 -	"	35 1/2 ±1/2		66 54	38 17		1% 1%					
<u>Cloth, Battice,</u>													
<u>Cotton, Fire-Resistant</u>													
MIL-C-788D(SHIP6)	12 13		(1)±1 1/2		22-26	19-21	120 80						

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-T-561	Cloth shall be fully bleached and properly neutralized.	Color - red or blue. Colorfastness - "fast" to washing.	Cloth shall have a checked pattern formed by 2 colored warp ends & 2 colored filling picks woven in at intervals at 1/2 to 1 in.; or a line pattern with 2 colored lines running parallel to the warp about an inch apart formed by 2 colored warp ends woven in.	
CCC-P-651 Type I Type II	(2) Singd. May be lightly calendered or uncalendered.	Colors & patterns (1). Colorfastness - (5660-5610).		Intended Use - Type I - In women's and children's dresses. Type II - for comforter coverings.
MIL-C-788D	Fire resistant - flame time, 3 sec. max. Average length of char - 3 in. Treatment must be compatible with adhesive Type I of MIL-A-3316 (5903T). Flexibility (3.2).		Drying time and adhesive strength (3.5.1).	Intended Use - For repairing and covering the surface of fibrous glass insulation board.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effic- lency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
						(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
<u>Swiss, Cotton, Cotton</u> CCC-S-891	Min	Max	Woven dots (clipped) on plain background	36 -1	W	F	W	F	W	F				
	1.4	-												
							62	48	24	12				

Cloth, Cotton, Terry
(For Filtering)
MIL-C-1164B

(11)
9.0 - Terry(7) 35-37 1 1 62 32

Cloth, Cotton, Oxford
And Poplin (For
Pajamas)
MIL-C-2107C

Type I - Oxford	5.0	-	Oxford	(1)	1	1	128	42	95	65	Preshrunk 2% 2% 80%		30.00
Type II - Oxford	4.5	-	"	(1)	1	1	128	60	95	45	2% 2% 80%		30.00
Type III - Poplin	5.5	-	Poplin	(1)	1	1	114	52	140	45	2% 2% 80%		30.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
CCC-S-891		Color (1). Colorfastness - (5610).		
MIL-C-1164B	(2) Bleached or unbleached.		(5)	Intended Use - For filtering feed water systems on ships driven by reciprocating engines.
MIL-C-2107C Type I Type II Type III	(2) Singed, scoured, mercerized, and dyed, with a clear lustrous finish.	Color - light blue, shade No. 14 - standard sample available (4 1/2). Colorfastness - standard sample available (5610- 5600-5680).		Intended Use - In the fabrication of pajamas for hospital and orthopedic use.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min Max				(5050) (5100)	(5450) (5550)	(5110) (5500)	(5514) (5516)					
Cloth, Duck, Cotton: Plied and Single Yarns (High Stret)													
MIL-C-2384C													
Type I - Plied yarn					(3)								
Class 1	10.75 -	Oxford	(1)	2	1	70 40	195 135						40.00
Class 2	14.75 -	weave (plain weave,	(1)	2	1	72 28	245 180						40.00
Type II - Single yarn													
Class 1	8.50 -	2 ends	(1)	1	1	110 44	280 90						40.00
Class 2	9.75 -	weaving	(1)	1	1	86 50	150 130						40.00
Class 3	11.25	as 1)	(1)	1	1	100 30	200 135						40.00

Cloth, Damask, Cotton
MIL-C-2758C

5.5 - Sin. damask (1) 1 1 78 76 74 74 6% 6%
5-leaf twill
(14)

Cloth, Cotton, Oxford
MIL-C-4122A (USAF)
Amd. 1

Type I - White	4.25 4.50	Plain,	36	(8)	88 42 40 70	Preshrunk 1% 1%
Type II - Shade Blue Number 501	4.25 4.50	1-up 1-down (2 warp ends	std. sample avail- able	88 42 40 70	1% 1%	
Type III - Shade Blue Number 126	3.80 4.10	weaving as 1)		88 42 40 70	1% 1%	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-2384C Type I Class 1 Class 2 Type II Class 1 Class 2 Class 3	(2)			Intended Use - In the fabri- cation of tentage and equipage items.
MIL-C-2758C	(2) Bleached and mercerized, with a clear lustrous finish.	Color - White, Navy Shade 3017. - standard sample available.	(5)	Intended Use - In making table cloths.
MIL-C-4122A Type I Type II Type III	(2) Singed, desized, boiled off, scoured, and mercerized, with a clear lustrous finish.	Color - Type I - white (bleached). Type II - Shade Blue, #501, vat dyed in the piece. Type III - Shade Blue #125. Warp of vat dyed blue yarns; fill of bleached white yarns. (-). Colorfastness - "Good" (5660-5610-5600-5651- 5680-5620-5622).	(5)	Intended Use - In the fabri- cation of USAF shirts and WAF s.irtwaists.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Perme- ability	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Perme- ability Max.	Point Value Max.
	Min	Max				(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)		
Cloth, Muslin, Cotton (Parachute Canopy) MIL-C-4279B						W	F	W	F	W	F				
												Tearing Strength lb. Min.			
Type II	3.7	-	Plain	(1)	1	1	54	56	48	42	170- -230	90%	3.0	2.5	20.00
Type III (Mildew resistant treated)	3.8	-	"	(1)	1	1	56	58	50	50	130- -190	90%	3.0	2.5	20.00
Cloth, Cotton Airplane MIL-C-5646D(ASG)	4.0	4.5	Plain, 1 up 1 down	(1)	2	2	80-84	80-84	80	80	(5104)				
Cloth, Cotton, Inflatable Equipment MIL-C-6820B															
Class 1 - Plain	-	2.2	Plain, 1 up 1 down	40	(2)		120	120	40	40	(5104)				
Class 2 - Twill	-	8.0	4 left 1 twill				90	90	145	140					

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-4279B Type II Type III	(2) Type III - treated with a dispersed polyethylene softener, and with sali- cylanilide for mildew resistance. Application of softener and mildew inhibitor in combination with dyeing.	Color (1) - standard sample available (4-6). Dyed without prior pre- paration except optional light scouring. No bleaching permitted. Dyeing by padding with direct dyes at or near boil. Colorfastness - standard sample available (5651).	(5) Tension in processing greater than necessary for control purposes shall be avoided.	Intended Use - In cargo para- chutes.
MIL-C-5646D	(2) Washed, framed, and medium-cold calendered. Smooth and wrinkle free. Avoid excess roll pressure on cloth. pH: 6.0-8.0.		Bursting Strength, Mullen Points (min.) - 170 (5122). Cloth shall be compatible with air- craft dope. Dope shall dry in 45 min. when applied to finished cloth.	Intended Use - In covering control surfaces, fuselages, and wings of airplanes.
MIL-C-6820B Class 1 Class 2	Smooth surface. Finished cloth shall contain no more than 1.0% methyl ethyl ketone extractable matter.			Intended Use - In the manufacture of laminated cloths or coated cloths which provide gas & air impermeable properties suitable for components of life rafts, flotation bags, and other inflatable items.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Gz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure Low range Min.	Water Permea- bility Max.	Point Value Max.
	Min Max				(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
Cloth, Cotton, Sheeting, Plain Weave, Firm, Porous					W F	W F	W F	W F					

MIL-C-8104(ASG) 3.5±0.5 Plain, (1) (S) 62 60 60 60 175-260
1 up
1 down

Cloth, Cotton, Basket
Weave and Plain Weave
MIL-C-9231(USA)

(a)
Type I - Plain Weave - 4.5 Plain, (1) 2 2 86 80 72 72
1 up
1 down

Type II - 4x4 Basket Weave - 4.5 4x4 Basket (1) 2 2 86 80 72 72
(4 warp ends weav-
ing as 1;
4 picks in
each shed)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-8104A	(2)(15) Cloth shall be given a chemical flameproofing treatment which shall not affect the air permeability of the cloth.	Color - (1-4) - Color shall be obtained by the use of vat dyes. Colorfastness - "good" (5660-5651-5610-5630).	Finished cloth shall be noncorrosive (4.4.2.2). Elongation - 7.5% min. Tearing strength - 4.5 lb. min. (5134). Flame resistance - Time of flaming 0 sec. Time of glow - 0 sec. Length of char - 2.3 in. max. (5902). After oven aging (4.4.2.3.2.2) finished cloth shall not lose more than 10% of initial breaking strength.	Intended Use - On aircraft insulation & soundproofing blankets. Cloth will be used only in areas in aircraft where temperatures will not be high enough to cause cloth to lose its strength properties.
MIL-C-9231 Type I Type II	(2)(15) Washed, framed, and medium-cold calendered, with a smooth even surface. Excessive roll pressure shall not be applied during calendering. Type I shall be mercerized, smooth and wrinkle free. pH: 5.0-9.0 (2811).		(a) Except for cloth having a nominal length of 90 in., weight shall not exceed 4.75 oz/sqyd.	Intended Use - In coated fabrics. It is not intended for use as a covering for airfoils.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Perme- ability	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Perme- ability Max.	Point Value Max.
	Min Max			W F	W F	W F	W F	W F					
Cloth, Cotton, Netting MIL-C-9278(USAF)	5 ± 1	Conventional Leno	42 ±1	8 8 min.	6 6 max.	85 85							

Cloth, Cotton, Airplane Curtain

MIL-C-9336(USAF) Amd. 1	6.0 6.5	Plain (1/1)	(1)	2 2	56 56	(5104) 95 85 (on unaged & oven aged samples.)							
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Cloth, Sateen, Cotton MIL-C-10296F

Class 1 - Dyed	-	8.2	5 harness sateen (7)	(1)	1 1	85 48 140 118	Preshrunk 1% 1% 80%						30.00
Class 2 - White	-	8.2	Filling effect side shall be face side.	(1)	1 1	85 48 115 100	1% 1% 80%						35.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-9278	(15) Sized for a stiff finish. Treated for mildew resistance.	Color - to match shade No. 3412 of Spec. TT-C- 595. (6-15).	Cloth shall retain 85% of initial breaking strength after mildew resistance treating.	Intended Use - In the manufacture of aircraft wing and stabilizer protective covers.
MIL-C-9336	(2)(15) Calendered; smooth and free from wrinkles. Mercerized, either yarn or piece mercerization is accept- able. Treated for flame resistance. pH: 4.0-10.0 (after oven aging) (2811).	Color - to match shade No. 3406 of Spec. TT- C-595. Vat dyed. Uni- form color. Either yarn or piece dyeing is acceptable. Colorfastness - "good" (5610-5660).	Cloth shall lose no more than 15% of initial breaking strength after oven aging. Flame resistance: length of flame - 0 sec, length of char - 3.5 in. max.	Intended Use - In the manufacture or replacement of aircraft curtains.
MIL-C-10296F Class 1 Class 2	(2) Class 1 cloth shall be singed, desized, and mercerized. Class 2 cloth shall be bleached.	Color - Class 1 (1). Standard sample avail- able (4-6). Class 2: White to match std. sample (4). Cloth shall be fully blea- ched & may be supple- mented with fluore- scent optical bright- eners. Cloth may not discolor to a greater degree than std. sample. Colorfastness - standard sample available for Class 1 (5660-5610-5600- 5680-5651).	Filling effect side shall be identified by stamping that side with the word "Face" at each end of the piece.	Intended Use - In clothing and equipment items.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.		Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)			
Cloth, Oxford, Cotton (Permeable) MIL-C-10859E						W	F	W	F	W	F					
Type I											Preshrunk					
Class 1 - Plain fin.	5.2	-	Oxford	(1)	1	1	124	42	75	60	20	1%	1%	90%		40.00
Class 2 - Flame resistant treated	5.0	6.8	(Plain, 2 ends weav- ing as 1)	(1)	1	1	122	40	75	60	20	-	80%			45.00
Type II																
Class 1 - Plain fin.	6.0	-	"	(1)	1	1	115	44	100	65	20	1%	1%	90%		40.00
Cloth, Cotton, Denim MIL-C-11854E	5.8	-	1 right 2 twill	(11) 36 min	1	1	65	42	90	38	Preshrunk	2%	2%	85%		30.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-10859E Type I Class 1 Class 2 Type II Class 1	(2) Types I & II, class 1 - singed, desized & mercerized. Type I, class 2 - desized. Type I, class 2 - given an approved cellu- lose reactant durable flame resis- tant treatment. Average flaming time - 2.0 sec. max. Average length of char - 5.0 max., before and after 3 cycles of laundering (5903-5556). Flex stiffness of finished cloth cloth shall be 0.0008 in. lb. max. initially, and 0.0035 after temp- eratures of -25°F ± 2°F for 1 hr. (5206). pH: 5.5 (of finished cloth min. (2811).	Color - Types I & II, Class 1 (1) - standard sample available except for white or natural (4-6). Type I, class 2 - undyed unbleached, natural color. Colorfastness - Types I and II - standard sample available (5660-5610- 5600-5682-5651). Type I Class 2 - standard sample available (5651).	(5) Type I, class 2 shall have a tearing strength of 4.5 in the warp and 4.0 in the filling (5132).	Intended Use - Types I & II Class 1 - In the manufacture of clothing and mittens. Type I Class 2 - In the manufacture of tent liners.
MIL-C-11854E	(2) pH: 5.0-8.5 (2811).	Color (1) - standard sample available (4-6). Colored warp of vat dyed yarn; white fill. Colorfastness - standard sample available (5660- 5610-5680-5651).		Intended Use - In the fabrica- tion of uniforms for female personnel.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.		Breaking Strength Lb. Min.	Air Perme- ability	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Perme- ability Max.	Point Value Max.
	Min	Max				W	F	W	F	W	F				
Cloth, Wind-Resistant Sateen, Cotton; Fire and Water Resistant MIL-C-12095D	8.5	9.5	5 harness W sateen (7)	(12) 35 min.	3	3	104	88	170	150	2.0	60%	25	40 (45 min. average)	30.00

Cloth, Cotton, Balloon MIL-C-12318A (CE)

				(11)								Preshrunk (1)
Type I - BB	-	2.90	Plain	40.5-	1	1	100	100	58	58		1% 1%
			1 up	42.5								
Type II - HH	-	2.05	1 down	41.5-	1	1	120	120	40	40		1% 1%
				42.5								
Type III - KK	-	1.40	"	53.5-	1	1	120	120	24	24		1% 1%
				54.5								
Type IV - MM	-	4.00	"	41.5-	2	2	80	80	80	80		1% 1%
				42.5								
Type V - RR	-	5.65	Basket,	41.5-	3	3	94	94	140	140		1% 1%
			5 up	42.5								
			5 down									
Type VI - SS	-	1.70	Plain	39.5-	1	1	120	120	32	30		1% 1%
			1 up	40.5								
			1 down									

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-12095D	(2) Singed and mercerized. Water repellent treated. Spray rating (3 tests) 90, 90, 80 min. (5526). Approved durable flame-resistant treatment. Average time of flam- ing - 2.0 sec. max. Average length of char - 5.0 in. max. initially and after 3 laundering cycles (5903-5556). pH: 5.5 min. (2811).	Color (1) - standard sample available (4-6). Colorfastness - standard sample available (5651- 5671).	Tearing strength - 4.0 min. in the warp; 3.8 min. in the filling. (5132).	Intended Use - In the fabrication of tentage.
MIL-C-12318A Type I Type II Type III Type IV Type V Type VI	(2) Clean, singed, desized and calen- dere., with a smooth even surface. Excess pressure during calendaring undyed & unbleached. shall be avoided. Type RR shall be made from bleached & mercerized yarns. pH: 5.0-9.0 (2810).	Color - Type RR shall be (5) bleached white. All other types shall be undyed & unbleached.		Intended Use - For impregnation with either synthetic or natural rubber.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns	Breaking	Air	Shrink-	Seam	Dynamic	Hydro-	Water	Point
					Per Inch Min.	Strength Lb. Min.	Permea- bility	age Max.	Effici- ency	Absorp- tion Max.	static Pressure low range Min.	Permea- bility Max.	Value Max.
	Min	Max			(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
				W	F	W	F	W	F				

Cloths, Cable Wiping MIL-C-13194 (Sigc)

Cloth MC-74, 3x3 in. (Cotton ticking)	8.5	-				80	70	90	70				
Cloth MC-75, 5x5 in. (Cotton ticking)	8.5	-				80	70	90	70				
Cloth MC-76, 6x6 in. (Cotton ticking)	8.5	-				80	70	90	70				
Cloth MC-79, 3x3 in. (Moleskin)	18.0	-						100	150				
Cloth MC-80, 5x5 in. (Moleskin)	18.0	-											
Cloth MC-81, 6x6 in. (Moleskin)	18.0	-											

Cloth, Cotton, Sheeting (For Bandoleers) MIL-C-13453A (ORD)

4.6	5.0	Plain	(11) 42 min.	1	1	68	66	70	70				
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Cloth, Wigan, Cotton MIL-C-16375E, Amd. 1

Type I	2.5	-	Plain	(1)	1	1	40	34	35	25			40.00
Type II	3.6	-	"	(1)	1	1	48	40	52	28			40.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-13194 Cloth MC-74 Cloth MC-75 Cloth MC-76 Cloth MC-79 Cloth MC-80 Cloth MC-81	Wiping surface shall be given a permanent smooth finish by an application of tallow dressing and soapstone dressing. Each dressing shall be applied uniformly and worked into the grain by means of a rotary polisher.		(5)	Intended Use - Wiping cloths are to be used in wiping lead joints on cable splices.
MIL-C-13453A	(2) pH: 6.9-7.3 (2611).	Color - Olive Drab No. 7 - standard sample available. (4-6). Color to be obtained by vat dyeing. Chromium salts shall not be used for oxidation of the vat dye-stuffs. Colorfastness - standard sample available - (5610-5600-5651-5650).		Intended Use - In making bando-leers for small arms ammunition.
MIL-C-16375E Type I Type II	Firm, plain calender finish. Type I shall have a bending moment (stiffness) of 0.003 in. lb. max. in the direction of the warp (5202)	Color - Natural.		Intended Use - As interlining for clothing.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Perme- ability	Shrink- age Max.	Seam Effic- iency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min Max				(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
Cloth, Cotton, Twill, Fire Retardant Treated MIL-C-18387D (WEP)	4.2±0.2 untreated (+28% after treatment).	3 steep 3 twill	(1)	2 2	105 100	100 70	25-60	2% 2%	80%				

Cloth, Impregnated;
Cotton, Colloid
Treated
MIL-C-18543A

12.5
untreated
37.0
treated

Cotton
flannel
dou. line
of filler
thread

(3)
50

68 34 175 150

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-18387D	Fire-retardant treated. After 15 launderings, average flame time - 2.0 sec. max.; glow time - 2.0 sec. max.; average length of char - 6.5 in. max. Compounds used for finish shall not deteriorate the cloth during storage or use, or cause burning itching or other harmful effects on the skin. Hand shall be firm, but not stiff or boardy. Stiffness - 0.010 lb. max. (5202). pH: 5.5-9.0 (2811).	Color - (1-6). Colorfastness - "good" (5660-5632-5682-5610-5651).	Tearing strength - initial - 6.0 lb. min. after 15 launderings - 2.6 lb. min. (5134). Resistance to abrasion - 1100 cycles to failure, min. (5308).	Intended Use - In the fabrication of lightweight flight garments. An acceptable cloth has been made from Delfos cotton having a staple length of 1 1/4 in.
MIL-C-18543A	Base cloth shall be uniformly napped on both sides, with nap laying in the direction of the warp. Base cloth shall be impregnated with pyroxylin and an inorganic fire-retardant. Cloth shall not burn down more than 6. in. in 120 sec. (4.4.1). Shall conform to flexibility tests (4.4.2).	Color - light gray - standard sample available		Intended Use - In the manufacture of orthopedic appliances, such as artificial arms, body jackets, etc. Also, for repairing and building up foundry patterns.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
Cloth, Cotton, Cartridge						W	F	W	F	W	F			
MIL-C-20313, Am. 2												Stretch (max) W F	Water Extract (max.)	
Grade A	-	5.0	-	36-42 (40 pref)		74	66	70	70			12%	20%	0.5%
Grade B	-	3.1	-	"		-	-	30	30					0.5%
Grade C	-	2.1	-	"		87-93	76-82	28	25					2.0%
Grade D	-	8.2	3 right 1 twill	"		116	56	180	130			12.5%	12.5%	0.5%

Cloth, Cotton, Oxford
and Uniform Twill, For
Summer Uniforms
MIL-C-26959A (USAF)

Type I - Oxford	4.25	4.75	2x2 Oxford	(1)	1	1	90	80	40	90	33	1%	1%	Preshrunk
Type II - Uniform Twill	6.0	6.5	2 right 1 twill	(1)	2	1	82	50	90	80	30	1%	1%	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-20313 Grade A Grade B Grade C Grade D	(2) Grade A - free from starch and calendered. Grade B - free from starch and calendered. Grade C - lightly sized with starch and calendered. Starch shall be undegraded (e.g. no gums or dextrines). Grade D - free from starch and calendered. pH: Neutral \pm 0.1%.	Color - white.	Grade A - shall be manu- factured from Type 140 sheeting, narrow or wide, split to correct width. Grade B - shall be manu- factured from commercial print cloth. Grade C - shall be manufactured from commercial combed lawn cloth. Grade D - shall be manufactured from commercial cloth of a 4-hardness twill.	Intended Use - In the manufacture of bags for loading propellant charges.
GI-C-26959A Type I Type II	(2) Singed, boiled off & mercerized.	Color (1) - standard sample available. Colorfastness - "Fair" (5600). "Good" (5660- 5610-5682-5651).	(5) Tearing strength - Type I - 9 lb. min. in the warp and 8 lb. min. in the fill. Type II - 10 lb. min. in the warp and filling. (5134)	

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effic- lency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
					(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
Cloth, Batiste, Cotton, Polishing	Min	Max			W	F	W	F	W	F			

MIL-C-40129A (OL)

Class 1 - Rolls	-	1.9	Plain	(11) 39	1	1	90	75	45	35			30.00
Class 2 - Cut pieces	-	1.9	1 up 1 down	4 min.	1	1	90	75	45	35			30.00

Blanket, Combat Casualty

MIL-B-41805	9.85	-	Plain	(1)	2	2	52	40	160	110	4		
			1 up 1 down										

Cloth, Cotton, Water

Repellent

MIL-C-43033 (ORD)

Class 1.	-	2.6	(1)				87-93	76-82	22	18			
Class 2	-	3.9	(1)				-	-	24	22			

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-40129A Class 1 Class 2	(2) Singled on both sides, desized, bleached white, and mercerized.			Intended Use - For cleaning and polishing coated optics.
MIL-B-41805	Treated for fire, water, weather, and made mildew resistant.	Color - dyed in accord- ance with Type I, Class 1 of Spec. CCC-C-428.	(14)	
MIL-C-43033	(2) Unbleached & free of sizing. Calendered. Finished with a urea formaldehyde resin (paste type), plus a durable water repellent (melamine resin base) as evi- denced by a purple color after test dyeing (4.3.1.1). pH: 5.5-8.5 (2811). Acidity or alkalinity - 0.10% max. (4.3.1.8). Breaking strength loss - 25% max. (4.3.1.9).	Color - natural or as specified.		Intended Use - As cartridge cloth in ammunition.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min. Max				(5050) (5100) (5450) (5550) (5110) (5500) (5514) (5516)								
Cloth, Sateen, Cotton, Flame Resistant Treated MIL-C-43122B				W F	W F	W F		W F					
Class 1 - Natural or tinted	(min) 8.5	5-harness	(1)	1	1	80 56 110 110	5.0	2% 2%	80%	40%			30.00
Class 2 - Dyed, water repellent	(greige, sateen +30% max (7) after fin)		(1)	1	1	80 56 110 110	5.0	2% 2%	80%	25%			30.00
Cloth, Cotton, Sheeting Blotch Printed MIL-C-43151	6.2	Plain	(1)	1	1	50 45 68 75		Preshrunk 4% 5%					35.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-C-43122B Class 1 Class 2	(2) Singed and desized. Approved flame resistant treatment. Average flame- ing time - 2.0 sec. max. Average length of char - 5.0 in. max., initially & after 15 launderings (5903). Class 2 - water repellent. Spray rating - 90, 90, 80 min. (5526). pH: 5.5 min. (2811).	Color - Class 1 - natural or neutral grey tint (if flame resistant treating imparts color to cloth). Class 2 - Olive Green 107 - standard sample available (4-6). Colorfastness - standard sample available (5651 for Class 1 and 2; 5610 for Class 2).	(5) Filling effect side shall be finished & labeled as "face". Tearing strength - 6.0 lb. min. Stiffness - 0.0015 in. lb. max.	Intended Use - Class 1 - Tent liners & coveralls for explosives handlers. Class 2 - Coats and trousers for firemen.
MIL-C-43151	(2) Desized, boiled off, and scoured. Bleaching and functional finishes are prohibited. Prior to printing the cloth shall be lightly napped on one side - standard sample available for degree of nap after over-printing. Blotch printing on napped side only, using a pigment binder system. Binder shall be capable of resisting chlorine emitting agents. Degree of strike-through not to exceed standard sample.	Color - Olive Green 107, to be obtained by blotch printing on one side only. Standard sample available (4-6). Colorfastness - standard sample available for dyed side (5600-5610).		Intended Use - For outer garments to protect environmental clothing against chemical warfare agents under cold-wet and cold-dry conditions.

COTTON CLOTHS-WOVEN

NOMENCLATURE	Weight Oz./Sq. Yd.		Grain	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Seam Effici- ency	Dynamic Absorp- tion Max.	Hydro- static Pressure low range Min.	Water Permea- bility Max.	Point Value Max.
	Min	Max				(5050)	(5100)	(5450)	(5550)	(5110)	(5500)	(5514)	(5516)	
Binding, Textile, Bore Cleaning; and Swabs, Small Arms, Cleaning MIL-B-43318						W F	W F	W F	W F					

Type I - Rolls

(Bindings)

Class 1 - 2 1/2" wide 4.7 5.1 Plain 1 1 43 39 40 30

Class 2 - 4" wide 4.7 5.1 " 1 1 43 39 40 30

Type II - Cut

pieces (Swabs)

Class 1 - 2" sq. 4.7 5.1 " 1 1 43 39 40 30

Class 2 - 2-9/16" sq. 4.7 5.1 " 1 1 43 39 40 30

Class 3 - 2.187" in diameter, cir. 4.7 5.1 " 1 1 43 39 40 30

Cloth, Cotton, Organdy MIL-C-81252 (WF)

1.2 1.6 Plain 76-80 70-74 29 20

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness tearing strength, yarn size, etc.)	NOTES (Not Specification Requirements)
MIL-B-43318 Type I Class 1 Class 2 Type II Class 1 Class 2 Class 3	Scoured, with an evenly developed napped surface on one side.	Color - natural, unbleached.		

MIL-C-81252

Color - white (natural). (5)
Tearing strength - 0.87 min. in the warp and 0.51 min in the filling. Intended Use - As a restraining material for parts of rocket motors.

REFERENCES

COTTON CLOTHES - WOVEN

Textile Test Methods - CCC-T-191b

<u>Method</u>	<u>Title</u>
<u>Chemical</u>	
2610	Nonfibrous materials, acid method.
2611	Nonfibrous materials, enzyme method.
2810	Acidity (pH), colorimetric method.
2811	Acidity (pH), potentiometric method.
<u>Construction</u>	
5020	Width of cloth.
5030	Thickness of cloth.
5040	Weight of cloth; cut, roll, or bolt method.
5041	Weight of cloth; small specimen method.
5050	Yarns per inch in woven cloth.
<u>Mechanical</u>	
5100	Strength and elongation, breaking, of woven cloth, grab method.
5102	Strength and elongation, breaking, of woven cloth, cut strip method.
5104	Strength and elongation, breaking, of woven cloth, ravel strip method.
5110	Sevability; strength-of-seam method.
5122	Bursting strength, diaphragm.
5132	Tearing strength, pendulum method (Elmendorf).
5134	Tearing strength, tongue method.
5136	Tearing strength, trapezoid method.
5202	Stiffness, directional; cantilever bending method (Tinious Olsen).
5206	Stiffness, drape and flex; cantilever bending method (Pierce formula).
5304	Abrasion resistance; oscillatory cylinder (Wyzenbeek) method.
5308	Abrasion resistance of cloth; Uniform Abrasion (Schieffer) method.
5410	Slippage resistance of yarns in cloth.
<u>Air Permeability and Water Resistance</u>	
5450	Air permeability, calibrated orifice method (Frazier).
5500	Water resistance, dynamic absorption.
5502	Water resistance, cloth, immersion absorption.
5514	Water resistance, hydrostatic pressure, low range.
5516	Water resistance, hydrostatic pressure, water permeability.
5526	Water resistance with hydrophobic finish; spray method.
5530	Penetration resistance of cloth; feathers and down, tumbling method.
<u>Shrinkage Resistance</u>	
5550	Shrinkage in laundering; cotton, linen, and mixed cotton and linen cloth.
5556	Shrinkage in laundering; mobile laundry method.
<u>Colorfastness</u>	
5600	Chlorine bleaching; cloth.
5610	Laundering, cotton and/or linen; Launder-Ometer.
5612	Laundering, cotton and/or linen cloth; wash wheel.
5620	Dry cleaning (petroleum solvent).
5622	Wet cleaning (with dry cleaning).
5630	Water, cold.
5632	Salt water and soap.
5651	Crocking of cloth.
5660	Light; accelerated (Fade-Ometer).
5670	Weather; accelerated method (Twin Arc Weather-Ometer).
5671	Weather; accelerated method (National Weathering Unit).
5680	Perspiration; perspirometer method.
5682	Perspiration; tube method.
<u>Mildew Resistance</u>	
5750	Mildew resistance; direct inoculation, pure culture, sterile specimen method.
5760	Mildew resistance; mixed culture method.
5762	Mildew resistance; soil burial method.
<u>Deterioration</u>	
5804	Weathering; accelerated (National Weathering Unit).
<u>Fire-Resistance Thermal Tests</u>	
5902	Flame resistance; vertical.
5903	Flame resistance of cloth; modified vertical.

GENERAL NOTES

WOOL CLOTHS - WOVEN

The following parenthetical numbers are utilized throughout this section of the text as referenced notes. Upon observing these numbers, refer to this page for further information dealing with specific portions of the item.

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|---------------------------------------|---|
| (1) As specified. | (6) Finishing and loading materials use prohibited. |
| (2) Width exclusive of selvage. | (7) Preproduction sample approval. |
| (3) Colormatching. | (8) See specification for woven design and insignia requirements. |
| (4) Bid sample and laboratory report. | (9) See specification for applicable tolerances. |
| (5) Weave diagrams or instructions. | |

The specific test methods referenced in this section of the text are listed with their titles at the end of the section.

WOOL CLOTHS-WOVEN

NOMENCLATURE	YARN				Wool Content	Width Inch	Weight Oz/Sq. Yd.	Weave	Thickness	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Shrinkage Max. (5556)	Point Value Max.
	Fiber	Grade U.S.D.A.	System	Ply									
Bunting, Wool CCC-B-801, Amd. 3	Wool		Worsted	2x2		(1)	4.0	Plain		32	32	35	34

Cloth, Serge, Wool;
Wool and Nylon
MIL-C-823E, Amd. 2
(See also under
Mixed Fiber Cloths)

Type I - Wool					(2)								
Class 1 - 18 oz. Fleece	60's	Bradford	2x2	95%	60	-	18.0	2		68	54	110	100
Class 2 - 16 oz. and/or	"	French or	2x1	min.	min.	-	16.0	2		70	54	100	80
Class 3 - 16 oz. pulled	64's	American	2x2	"	"	-	16.0	4-harness		68	64	100	90
Class 5 - 15 oz. wool	62's		2x2	"	"	-	15.0	right		70	56	100	80
Class 7 - 12 oz.	64's		2x2	"	"	-	12.0	twill		74	70	80	70
Class 8 - 12 oz.	"		2x2	"	"	-	12.0			70	62	80	70

Type II - Wool
and Nylon
Class 1 - 18 oz.
Class 2 - 16 oz.
(See under Mixed
Fiber Cloths)

Cloth, Wool, Gabardine (Venetian), 13-ounce Blue 84 MIL-C-824	Fleece and/or pulled wool	64's	2x2	(2)	(lin. yd. or 56 in.)	56	-	13	4/1 5-harness W-faced satin 3-counter (5)	92	58	110	60	(5590) 54-3%
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NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as testing strength, etc.)	NOTES (Not Specification Requirements)
CCC-B-801		Color (1) - standard sample available. Colorfastness - standard sample available (5651-5630-5632-5660).	Bunting shall be made with two non-raveling edges, woven single width.	

MIL-C-823E Type I Class 1 Class 2 Class 3 Class 5 Class 7 Class 8 Type II Class 1 Class 2	Fulled, sheared, and otherwise finished so as to provide stability of both finish and color - std. sample available. pH: 5.5-8.5 (2811).	Color, colorants, and methods of coloring (1). Standard sample available (3). Colorfastness - standard sample available (5660-5622-5680-5651).	(4) Pre-production sample approval where specified.	Intended Use - In service, semi-dress, and dress uniforms, and functional clothing.
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MIL-C-824	Scoured, closely sheared, well pressed, clear face, with a firm feel or handle - standard sample available. pH: 4.0-8.0 (2811). (6)	Color - Blue 84. Produced by a blend of wool tops dyed with vat or chrome dyes using 1 or more shades of blue with pearl (3). Colorfastness - "good" (5660-5651-5682-5622).	(7)	Intended Use - In the manufacture of clothing items for the Air Force.
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WOOL CLOTHS-WOVEN

NOMENCLATURE	YARN				Wool Content	Width Inch	Weight Oz/ Sq. Yd.	Weave	Thick-ness	Yarns Per Inch Min. (50/50)	Breaking Strength Lb. Min. (51/00)	Shrink-ages Max. (55/55)	Point Value Max.
	Fiber	Grade U.S.D.A.	System	Ply									
Blanket, Bed (Wool)													
MIL-B-8447, Amend. 2													
Type I - Twill													
weave													
Grade A - 100% new wool	Grade A blankets - Warp and filling yarn from fleece and/or pulled wool				95%	21.5 oz/lin yd. min.	untreated blanket 2 straight 2 twill or 2 broken 2 twill (Based on 2-right lin. yd. 2-left 56" wide)			28	30	50	50
Size 3 - 66x90"	from blend:												
Color - Olive Green 118	50% (min.)	56's - 60's											
	50% (max.)	44's - 60's											
Grade B - New wool & repro-cessed blend	Grade B blankets - Warp and filling yarn from fleece and/or pulled wool from blend:				95%					28	30	45	45
Size 1 - 60x84"	65% (min.)												
Color - Gray 3119	Reprocessed wool of: 35% (max.) 48's - 60's												
Size 2 - 66x84"					95%					28	30	45	45
Color - Olive Green 118	Spun on the woolen system.												
Size 3 - 66x90"					95%					28	30	45	45
Color - Olive Green 118													
Type II - Double Woven													
Grade A - 100% new wool					95%	23.0 oz/lin yd. min. (a)	untreated double woven twill 1 face twill 2 back (5)			37	39	45	45
Size 3 - 66x90"													
Color - White with stripes													

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as tearing strength, etc.)	NOTES (Not Specification Requirements)
MIL-B-8447 Type I Grade A Size 3 Color-118 Grade B Size 1 Color-3119 Size 2 Color-118 Size 3 Color-118 Type II Grade A Size 3 Color	Finished blanket shall be fully napped - standard sample available. Treated for resistance to felting shrinkage by an oxidation or melamine formaldehyde resin process. Process shall not increase alkali solubility of treated blanket more than 6% over the untreated blanket. Stiffness of treated blanket shall not be more than 0.011 load lb. (2800-5202). pH: 4.0-8.0 (2811).	Color - Gray, to be obtained by stock dyeing with suitable chrome dyestuffs to match Navy Shade 3119 (3). Olive Green No. 118, to be obtained by blending olive green dyed wools with white wool. Chrome acid milling or neutral dyeing presettlized dyes shall be used (3). White - unbleached white (3). Maroon - Yarn used for weaving stripes for white blanket shall be chrome dyed a Maroon No. 165 (3). Standard sample available for all colors. (8) Colorfastness - Type I blankets & maroon stripes of Type II blankets - standard sample available (5660-5614-5651).	(a) Resin treatment for producing shrink resistance shall not increase the weight of the untreated blanket by more than 5%.	Intended Use - Type I, Grade A or B, size 3, olive green is a medical field blanket. Type I, Grade B, size 1, gray is a Navy crew blanket. Type I, Grade B, size 2, olive green is used by the Army, Navy, Air Force and Marine Corps. Type II, Grade A, size 3 is a hospital blanket.

WOOL CLOTHS-WOVEN

NOMENCLATURE	YARN				Wool Content	Width Inch	Weight Oz/ Sq. Yd.	Weave	Thickness	Yarns Per Inch Min. (5050)	Breaking Strength Lb. Min. (5100)	Shrinkage Max. (5556)	Point Value Max.
	Fiber	Grade U.S.D.A.	System	Ply									

Cloth, Wool, Velour,
28 Ounce, Blue-85
MIL-C-848, Am. 1

Max Min

W F W F

Type I - Virgin Wool	(a) 60% fleeces and/or pulled wool	60's	Woolen	1x1	(2) 56	28 oz/lin yd	face warp, back warp, interlaced with single filling (5)	60 36 80 40	3 1/4 - 2 1/4
Type II - Virgin Wool & Reprocessed Wool	40% noilic (max.)	60's	Woolen	1x1	56	"			3 1/4 - 2 1/4

Cloth, Fleeces, Wool
21.5 Ounce
MIL-C-2049C

Fleeces and/or pulled wool	50's	Woolen	1x1	95% min.	(2) 59	21.5 - oz/lin yd (based on lin yd of 56 in.)	2 broken 2 twill 2-right 2-left	28 30 50 50	15.00
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NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as tearing strength, etc.)	NOTES (Not Specification Requirements)
MIL-C-848 Type I Type II	Scoured, fulled, napped, and free from vegetable matter (carbonized if necessary), with a uniformly developed velour finish on the face equal to the standard sample. Standard sample for both types shall be from Type I cloth. pH: 4.0-8.0 (2810-2811). (6)	Color - color shall match blue - 85 (3) & shall be stock dyed with chrome or vat dyes. Colorfastness - std. sample available (5651-5622).	(7) (a) Type II cloth-colored noils or reprocessed wool may be used in the blend.	Intended Use - In the manufacture of clothing items for the Air Force.
MIL-C-2049C	Scoured, fulled, with both sides napped. Standard sample available. Nap fibers should offer considerable resistance to lifting with a needle (6.4). pH: 4.0 - 8.0 (2811).	Color - Olive drab No. 118, produced by blending stock dyed wools of olive green with white wool - standard sample available (3). Colorfastness - standard sample available (5680-5622).		Intended Use - In the removable liner for firemen's Olive Drab Shade No. 7 coat.

WOOL CLOTHS-WOVEN

NOMENCLATURE	YARN				Wool Content	Width Inch	Weight Oz/ Sq. Yd.	Weave	Thick in.	Yarns Per Inch Min. (5050)		Breaking Strength Lb. Min. (5100)		Shrinkage Max. (2554)		Point Value Max.
	Fiber	Grade U.S.D.A.	System	Ply						W	F	W	F	W	F	
<u>Cloth, Flannel, Wool,</u> <u>10 1/2 Ounce Shrink</u> <u>Resistant</u> <u>MIL-C-2184D</u>	Fleece and/or pulled wool	60's	Bradford French or American:	1x1	95% min.	(2) 60	12.6	10.5	2 right 2 twill		68	68	55	55	5%-4% relaxation 4%-3% felting	10.00
												oz/lin yd (based on lin yd. or 56 in.)				
<u>Cloth, Flannel, Wool,</u> <u>Lining, 12 Ounce</u> <u>MIL-C-3191D</u>	Fleece and/or pulled wool	60's	Wollen	1x1	95% min.	(2) 56	-	12.0	2 right 2 twill 4-harness		33	33	35	30	5%-3%	10.00
												oz/lin yd				

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as tearing strength, etc.)	NOTES (Not Specification Requirements)
MIL-C-2184D	Scoured, sheared, and pressed. Standard sample available. Given an approved shrinkage control treatment by an oxidation resin or by interfacial polymerization process. Stiffness of treated cloth shall be 0.003 load lb. max. in the warp direction (5202). When oxidation method is used, the alkali solubility of the treated cloth shall not have increased over 6% (absolute) (2800). pH: 4.0-8.0 (2811).	Color (1) - standard sample available (3). Color shall be obtained by blending top dyed wool. Colorfastness - standard sample available (5660-5680-5651-5614).		Intended Use - As shirting material for both male and female personnel.
MIL-C-3191D	Scoured, fulled (carbonized if necessary, napped & sheared on the face & on the back. Standard sample available. pH: 4.0 - 8.0 (2811).	Color (1) - standard sample available (3). Colorfastness - standard sample available (5622-5680-5651).		Intended Use - In removable liners in men's and women's wool overcoats.

WOOL CLOTHS-WOVEN

NOMENCLATURE	YARN				Wool Content	Width Inch	Weight Oz/ Sq. Yd.	Weave	Thick-ness	Yarns Per Inch Min. (5050)	Breaking Strength Lb. Min. (5100)	Shrink- age Mx. (5556)	Point Value Max.
	Fiber	Grade U.S.D.A.	System	Ply									
Cloth, Barathea, Wool MIL-C-3727C													
Type I - 14.0 oz. Fleece and/or pulled wool	70's	Bradford French or American	2x2	95% min.	(2) 60 min.	- 14.0 oz/lin yd	8-har-ness barathea (5)			80 86	70 85	4 3 1/2	15.00
Type III - 15.0 oz. pulled wool	70's	"	"	"	"	- 15.0 oz/lin yd (Based on lin yd of 56 in.)	"			85 75	125 100	4 3 1/2	15.00

Cloth, Elastique, Wool

MIL-C-3738D													
Type I - 19 oz. Fleece and/or pulled wool	70's	Bradford French or American	2x2	95% min.	(2) 60 min.	- 19.0 oz/lin yd	(5)			128 98	160 90	5 1/2 - 3	15.00
Type II - Class 1 - 18 oz. wool	64's	"	2x2	"	"	- 18.0 oz/lin yd	(5)			124 80	140 80	6 1/4 - 4	15.00
Class 2 - 18 oz. wool	70's	"	2x2	"	"	- 18.0 oz/lin yd	(5)			124 80	140 80	6 1/4 - 4	15.00
Type III - 16 oz. wool	70's	"	2x2	"	"	- 16.0 oz/lin yd (Based on lin yd of 56 in.)	(5)			138 96	130 70	5 1/2 - 3	15.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as tearing strength, etc.)	NOTES (Not Specification Requirements)
MIL-C-3727C Type I Type III	Scoured, fulled and sheared - standard sample available. pH: 5.5 - 8.0 (2811).	Color (1) - standard sample available (3). Produced by blending the proper shades of stock or top dyed wool, and obtained by the use of chrome, vat, or neutral premetalized dyes or combinations thereof. Colorfastness - standard sample available (5660-5651-5622-5680).		Intended Use - In the manufacture of uniform items.
MIL-C-3738D Type I Type II Class 1 Class 2 Type III	Face shall be clear and closely sheared - standard sample available. pH: 5.5 - 8.5 (2811).	Color (1) - standard sample available (3). Color shall be obtained by stock or top dyeing, piece dyeing will not be permitted. Colorfastness - standard sample available (5660-5651-5622-5680).		Intended Use - In the manufacture of clothing items.

WOOL CLOTHS-WOVEN

NOMENCLATURE	YARN				Wool Content	Width Inch	Weight Oz./ Sq. Yd.	Weave	Thick-ness	Yarns Per Inch Min. (50/50)	Breaking Strength Lb. Min. (50/50)	Shrink- age Max. (50/50)	Print Value Max.	
	Fiber	Grade U.S.D.A.	System	Ply										
<u>Cloth, Wool, Gabardine, 12 Ounce</u> <u>MIL-C-6403 (USAF)</u>														
W F Max Min W F W F														
Type I - Blue 84	Fleece and/or pulled wool	64's	Worsted	2x2	(2) 56	-	12 2 right 1/2 lin yd 1 twill			84	52	110	50	5%-3%
Type II - Gray 167		64's	"	2x2						84	52	110	50	5%-3%
<u>Cloth, Gabardine, Wool, Polyester and Wool</u> <u>MIL-C-10176F, Class 3</u> (See also under Mixed Fiber Cloths)														
Type I - Wool Class 3- 11 oz.	Fleece and/or pulled wool	62's	Br. Lord French or American	2x2	95% 50 min.	-	11 2 right 1 twill			86	48	80	42	4%-3%
Class 5- 14.5 oz. wool		64's	American	2x2	95%	-	14.5 2 right 2 twill			112	56	115	65	5%-3%
Class 7- 16 oz.		64's	American	2x2	95%	-	16 2 right 2 twill			120	60	120	55	4%-3%
Type II - Polyester wool blend (See also Mixed Fiber Cloths)						(based on a lin yd of 56 in)								(All shades but H-1) 10.0 15.0 (H-1)
<u>Cloth, Flannel, Wool Undercollar Cloth</u> <u>MIL-C-15062E</u>														
	Fleece and/or pulled wool	56's	Woolen	1x1	95% min.	(2) 56	12.5 10.5 Plain oz/lin yd			26	23	24	16	15.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as tearing strength, etc.)	NOTES (Not Specification Requirements)
MIL-C-6403 Type I Type II	Scoured, closely sheared, well pressed, clear faced, with a firm feel or handle. Standard sample available. pH: 4.0 - 8.0 (2810-2811) (6)	Color - Type I shall match Blue 84 & be produced by a blend of wool tops dyed with vat or chrome dyes using one or more shades of blue with pearl (3). Type II shall match Gray 167 and be produced by vat or chrome dyes (3). Colorfastness - "good" (5660-5651-5622-5680).		
MIL-C-10176F Type I Class 3 Class 5 Class 7 Type II	Scoured, brushed, chemically singed, pressed and finished. Standard sample available. pH: 5.5 - 8.5 (2811).	Color (1) - standard sample available (3). To be obtained by blending top or stock dyed wools. Colorfastness - standard sample available (5622-5651-5660-5680).		Intended Use - In the manufacture of clothing.
MIL-C-15062E	Clean, fulled (carbonized if necessary), pressed, with a face evenly sheared. Finished cloth shall have finish & hand to match standard sample. pH: 4.0 - 8.0 (2811).	Color (1) - standard sample available (3). Piece dyeing is permitted. Colorfastness - standard sample available (5651-5622-5640).		Intended Use - As a facing for the underside of the collar of the uniform coats and overcoats.

WOOL CLOTHS-WOVEN

NOMENCLATURE	YARN				Wool Content	Width Inch	Weight Oz/Sq Yd	Weave	Thickness	Yarns Per Inch Min. (5050)	Breaking Strength Lb. Min. (5100)	Shrinkage Max. (5556)	Point Value Max.
	Fiber	Grade U.S.D.A.	System	Ply									
Cloth, Wool, Serge (128 Yarns)							Max Min			W F	W F		
MIL-C-15506B (8A)													
Type I - Unshrunk, untreated	Fleece and/or pulled wool	62's	Worsted	2x1		(2) 56	(e) 13.5 12.5	2 right 2 twill		60 63	80 60	4 1/2-2 1/4	
Type II - London shrunk untreated	"	62's	"	2x1		"	13.5 12.5	"		70 64	80 60	2 1/2-1 1/4	
Type III - London water repellent treated, shrunk	"	62's	"			"	13.5 12.5	"		70 64	80 60	2 1/2-1 1/4	
Cloth, Wool, Flannel, Green (128 Yarns)													
MIL-C-15779B (MC)	Fleece and/or pulled wool	58's		1x1		(2) 58	10.1 9.1	2 right 2 twill		72 66	50 40	(5590) 4 1/2-2 1/4	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as tearing strength, etc.)	NOTES (Not Specification Requirements)
MIL-C-15506B Type I Type II Type III	Types I & II - closely sheared, with a clear finish. Type I - unshrunk; Type II - London shrunk. Standard sample for hand & finish. Cloths shall contain no soaps, detergents or finishing materials that will interfere with the application or efficiency of water repellent compounds. Type III, same as Type II, but with a durable water repellent treatment. Spray rating: 90 (min) initially; 70 (min) after one dry cleaning (5524). Hydrostatic Pressure: 8 in. initial, 6 in. after one dry cleaning (5514). pH: 4.0 - 8.0 (2810-2811). (6)	Color (1) - stock or top dyed with chrome dyestuffs to match standard sample (3). Colorfastness - sample of reference available (5660-5680-5622-5651).	(7) (a) oz/lin yd. Cloth shall have a selvage of 1/2 (+1/16) in. on each side & shall include 1/2 or more white warp ends.	Intended Use - In the manufacture of uniforms for female Naval personnel.
MIL-C-15779B	Fuller and covered, napped, sheared and pressed, with the soft feel or handle characteristic of flannel. Standard sample available. pH: 4.0 - 8.0 (2810-2811).	Color - Cloth shall be stock or top dyed to match standard shade Green 2218. Green color to be produced by blending colored wools with white wool (3). Colorfastness - standard sample available (5660-5651-5622-5614-5680-5622).		Intended Use - In the manufacture of shirts.

WOOL CLOTHS-WOVEN

NOMENCLATURE	YARN				Wool Content	Width inch	Weight Oz/ Sq Yd.	Weave	Thick-ness	Yarns Per Inch Min. (8050)	Breaking Strength Lb. Min. (5100)	Shrink- age Max. (5554)	Polar Value Max.
	Fiber	Grade U.S.D.A.	System	Ply									
Cloth, Wool, Kersey; 17-Ounce; Green MIL-C-15780B (MC)	Fleece and/or pulled wool.	60's	Woolen	1x1			(1) 18.0 17.0 2 broken oz/lin yd 2 twill 4-harness 2-right, 2-left			60 58	70 54	(5558) 32 1/2-2 1/2	

Cloth, Melton, Wool
MIL-C-16291D (SA)
Amd. 1

Type I - 16 oz. Blue 3313	Fleece and/or pulled wool	64's	Woolen	1x1	95% min.	(2) 56	17.0 16.0 2 right oz/lin yd 1 twill			60 55	58 46	(5590) 4 1/2-3 1/2	10.00
Type II - 22 oz. Class 1 - Blue 3314 Class 2 - Blue 3315 Class 3 - Blue 3327		60's	"	1x1	"	56	24.0 22.0 3 crow oz/lin yd 1 foot			55 45	80 60	4 1/2-2 1/2	10.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as tearing strength, etc.)	NOTES (Not Specification Requirements)
MIL-C-15780B	Type and character of finish shall conform to the standard sample. pH: 4.0 - 8.0 (2810-2811).	Color - cloth to be stock dyed and blended with white wools to match standard shade Green 2205 (3). Color-fastness - standard sample available (5660-5651-5622-5680-5682).		Intended Use - In the manufacture of enlisted men's garrison caps, service cap frame covers, uniform coats and trousers, and men's and women's overcoats.
MIL-C-16291D Type I Type II Class 1 Class 2 Class 3	Type and character of finish shall match standard sample. Cloth shall be scoured, fulled (carbonized if necessary), face evenly sheared and well pressed. When specified, cloth shall be treated with moth repellent in accordance with method specified by contracting officer.	Color (1) - Type I shall match Blue 3313. Type II Class 1 shall match Blue 3314; Class 2 shall match Blue 3315; Class 3 shall match Blue 3327 (3). Color shall be produced by stock dyeing with suitable chrome dyestuffs. Colorfastness - standard sample available (5614-5622-5651-5660-5680).	(7) Type II, air permeability; 20 ft. ³ minute	Intended Use - In the manufacture of clothing items.

WOOL CLOTHS-WOVEN

NOMENCLATURE	YARN				Wool Content	Width Inch	Weight Oz/Sq. Yd.		Weave	Thick-ness	Yarns Per Inch Min. (5050)		Breaking Strength Lb. Min. (5100)		Shrink-age Max. (5550)		Point Value Max.
	Fiber	Grade U.S.D.A.	System	Ply			Max	Min			W	F	W	F	W	F	
Cloth, Flannel, Wool MIL-C-16291D (SA)	Fleece and/or pulled wool	60's	Woolen	1x1	95% min.	56	12.0	11.0	2 right 2 twill		56	48	35	35	(5590) 3 1/2-4%		10.00
Cloth, Whitecord, Wool MIL-C-17248C (SA)	Fleece and/or pulled wool	70's	Worsted	2x2	95% min.	60	-	17.0	4 1/2 right twill (j)		104	84	98	52	(5590) 4 1/2-5%		10.00
Cloth, Billiard MIL-C-17566A (SA)	Staple fleece and/or pulled wool	56's	Woolen	1x1		60	-	17.2	2 right 1 twill		50	40	50	45			

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as tearing strength, etc.)	NOTES (Not Specification Requirements)
MIL-C-16291D	Flannel finish, well pressed, with a lustrous face, nap and hand equal to that of standard sample. When specified, cloth shall be treated with moth repellent by a method specified by contracting officer.	Color (1) - standard sample available (3). When blue is specified, shade shall be Blue 3311; when Olive Drab, shade shall be OD 3705. Color shall be produced by stock dyeing with chrome dyestuffs. Colorfastness - standard sample available (5660-5620-5680-5614-5670-5651).	(7)	Intended Use - In the manufacture of uniforms for male Naval personnel.
MIL-C-17248C	Scoured, with hand and finish equal to approved sample. Face shall be sheared and well pressed. When specified, cloth shall be treated with moth repellent by a method specified by contracting officer. pH: 4.0 - 8.0 (2810-2811).	Color (1-3). Standard sample available. To be produced by stock or top dyeing with chrome dyestuffs. Blue shall match Blue 3354. Green shall match Green 3441. Colorfastness - standard sample available (5614-5622-5651-5660-5680).	(7) Cloth shall have a min. seam efficiency of 80% (5110).	Intended Use - In the manufacture of uniforms.
MIL-C-17566A	Finish and hand equal to standard sample. Scoured, fulled, free from vegetable matter (carbonized if necessary) and face evenly sheared.	Color - Green 3402, equal to std. shade (3). Colorfastness - standard sample available (5660-5651).	(7) Cloth shall have a selvage of 1 (1/16) in. on each side.	Intended Use - As table cloths.

WOOL CLOTHS-WOVEN

NOMENCLATURE	YARN				Wool Content	Width Inch	Weight Oz/ Sq. Yd.	Weave	Thick-ness	Yarns Per Inch Min. (5050)	Breaking Strength Lb. Min. (5100)	Shrink-age Max. (5558)	P. W. I.
	Fiber	Grade U.S.D.A.	System	Ply									
Cloth, Tropical; Wool; Polyester/Wool Mil-C-21115E, Amd. 1 (See also under Mixed Fiber Cloths)													
Type I - Wool Class 1- 10.5 oz. Fleece Class 2- 8.5 oz. and/or pulled wool Type III - Poly-ester-wool blend (See under Mixed Fiber Cloths)													
64's Bradford 2x2 95% (2) 60 11 10 Plain 30 46 55 50 4-3% (All at but M-12.15. (M-1)													
64's French or American min. min. - 8.5 (Based on lin. yd. 56" wide)													

Blanket, Fire; Wool, With Case

MIL-B-59309 (M0)	Reprocessed 50's Woulen wools, blend	2 broken 2 twill 2-right, 2-left	15 15 22 16	(55%) 6-6%
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NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as tearing strength, etc.)	NOTES (Not Specification Requirement)
MIL-C-21115E Type I Class 1 Class 2 Type III	Scoured, brushed, sheared, and singed, pressed and decatized to provide a finish equal to that of the standard sample. Finish-cloth shall show no more creping after shrinkage test (5558) than standard sample. pH: 5.5 - 8.5 (2811).	Color (1) - standard sample available (3). Color shall be obtained by blending stock and top dyed wools. Colorfastness - standard sample available (5622-5651-5660-5680).		Intended Use - Class 1, in the manufacture of shirts, coats, trousers for officers and enlisted personnel. Class 2, for neckties.
MIL-B-59309	Blanket shall be free from vegetable matter and shall be frilled and napped to produce a soft finish. Blanket shall be fire-resistant.	Colorfastness - "good" (5671-5616-5651).	Preproduction model of blanket and case shall be submitted.	Intended Use - For extinguishing fires on personnel.

WOOL CLOTHS-WOVEN

NOMENCLATURE:	YARN				Wool Content	Width Inch	Weight Oz/ Sq Yd.	Weave	Thick-ness	Yarns Per Inch Min. (8080)	Breaking Strength Lb. Min. (5100)	Shrink- age Max. (5556)	Point Value Max.	
	Fiber	Grade U.S.D.A.	System	Ply										
Cloth, Broadcloth, Wool, and Wool Synthetic MIL-C-82252 (See also under Mixed Fiber Cloths)				V F			Max Min			W F	W F			
Type I - Wool														
Class 1- 14.5 oz. Fleece						(2)						(5590)		
Blue and/or	64's	Woolen	1x1	95%	56	15.0	14.0	2 right	54	50	45	42	5% 4%	15.00
Class 2- 15.5 oz. pulled				min.				1 twill						
Blue wool	70's	"	1x1	"	54	16.0	15.0	"	56	55	50	45	2% 1 1/2%	15.00
Class 3- 16.5 oz.														
Blue	70's	"	1x1	"	56	17.0	16.0	"	60	58	40	35	3 1/2% 3 1/2%	15.00
Class 4- 16.5 oz.														
Scarlet or Black	60's	"	1x1	"	54	17.0	16.0	"	54	54	55	45	3 1/2% 2 1/2%	15.00
Class 5- 23.0 oz.														
Blue	70's	"	1x1	"	56	24.0	22.0	"	90	64	65	40	4% 3%	15.00
						oz/lin yd								
Type II - Wool/ Synthetic blend (See under Mixed Fiber Cloths)														

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as tearing strength, etc.)	NOTES (Not Specification Requirements)
MIL-C-82252 Type I Class 1 Class 2 Class 3 Class 4 Class 5 Type II	Scoured, fullied, free from vegetable matter, with a uniformly developed broadcloth finish. Finished cloth shall be pressed & have a lustrous face finish like that of the standard sample. When specified, cloth shall be treated with moth repellent in accordance with the method specified by the contracting officer. pH: 4.0 - 8.0	Color - for Type I, Classes 1,3,4 and 5, color shall be produced by stock dyeing with chrome dyestuffs to match approved std. shades (3) Class 1 - Blue 3319 Class 3 - Blue 3320 Class 4 - Scarlet 2501 or Black (1) Class 5 - Blue 3321. Type I, class 2 & Type II, class 1 shall be produced with indigo dye, Blue 2307. Colorfastness - standard sample available (5660-5662-5680-5651).	(7)	Intended Use - In service, semi-dress, and dress uniforms and functional clothing.

REFERENCES

WOOL CLOTHS - WOVEN

Textile Test Methods - CCC-T-191b

<u>Method</u>	<u>Title</u>
<u>Chemical</u>	
2800	Wool fiber damage, alkali solubility method.
2810	Acidity (pH), colorimetric method.
2811	Acidity (pH), potentiometric method.
<u>Construction</u>	
5050	Yarns per inch in woven cloth.
<u>Mechanical</u>	
5100	Strength and elongation, breaking, of woven cloth, grab method.
5202	Stiffness, directional; cantilever bending method (Timius Olsen).
<u>Air Permeability and Water Resistance</u>	
5514	Water resistance hydrostatic pressure, low range.
5526	Water resistance with hydrophobic finish; spray method.
<u>Shrinkage Resistance</u>	
5556	Shrinkage in laundering; mobile laundry method.
5558	Shrinkage, relaxation; wool cloth.
5590	Shrinkage in sponging; cloth.
<u>Colorfastness</u>	
5614	Laundering of wool, silk, rayon cloth; Launder-Ometer.
5620	Dry cleaning (petroleum solvent).
5622	Wet cleaning (with dry cleaning).
5630	Water, cold.
5632	Salt water and soap.
5651	Crocking of cloth.
5660	Light; accelerated (Fade-Ometer).
5670	Weather; accelerated method (Twin Arc Weather-Ometer).
5671	Weather; accelerated method (National Weathering Unit).
5680	Perspiration; perspirometer method.
5682	Perspiration; tube method.

GENERAL NOTES

SYNTHETIC OR MIXED SYNTHETIC CLOTHES - WOVEN

The following parenthetical numbers are utilized throughout this section of the text as referenced notes.
Upon observing these numbers, refer to this page for further information dealing with specific portions of the item.

- | | |
|--|---|
| (1) As specified. | (7) See specification for applicable tolerances. |
| (2) See specification for requirements after aging,
weathering, water immersion, etc. | (8) Nonfibrous, etc., restrictions. |
| (3) Colormatching. | (9) Width exclusive of selvage. |
| (4) See specification for weave diagrams or instructions. | (10) Use of finishing and loading material
prohibited. |
| (5) Width inclusive of selvage. | (11) Preproduction sample. |
| (6) Restrictions on use of sulfur dyes. | (12) Bid sample and laboratory report. |

The specific test methods referenced in this section of the text are listed with their titles at the end of the section.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN						Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Perme- ability	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns											
	Melting Point	Type		Denier	Fila- ment										
Screening, Non-metallic, Insect L-S-125, Amd. 3(OL) (See also under Coated Cloths)			W F	W F	W F		Min Max		W F	W F	W F		W F		
Type I - Polyvinyl- idene chloride Class 1- 0.0120" diameter															
Size 16x16	(soft-	Poly-				(1)									
Size 18x14	ening	vinyl-				(1)									
Size 18x18	point).	idene				(1)									
Size 20x20	140°C.	Chlor-				(1)									
Size 22x22	min.	ide				(1)									
Class 2- 0.0150" diameter															
Size 16x16	"	"				(1)									
Size 18x14						(1)									
Size 18x18						(1)									
Size 20x20						(1)									
Size 22x22						(1)									
Type II - Plastic Coated or Impreg- nated Fibrous Glass (See under Coated Cloths)															

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
L-S-125 Type I Class 1 Size 16x16 Size 18x14 Size 18x18 Size 20x20 Size 22x22 Class 2 Size 16x16 Size 18x14 Size 18x18 Size 20x20 Size 22x22 Type II		Color - shall be natural (light straw color), aluminum, bronze, or green No. 14036 of Fed. Std. No. 595 as specified. Colorfastness - "fair" (4.4.11).	Minimum elongation of filament 20%. Resistance to water immersion: average change in length shall be 2% max. (4.4.6). Finished screening shall have a woven or mock salvage of at least 6 ends in each edge. Screen shall show no blocking in excess of Scale No. 1 (5872-4.4.9). Tension required for complete slippage of the filament shall not be less than 5 lb. (5100-4.4.13). Screening shall not burn for more than 10 sec. after removal of a match flame (4.4.15). When specified, screening shall have an incorporated fungicide. Screening shall show no evidence of fungus growth when tested (4.4.16).	Intended Use - For installation in or on any dwelling, patio, screen enclosure, building of structure, for the purpose of preventing the ingress of flies, mosquitoes, or other insects, particularly where corrosive conditions are encountered.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Spinning Point	Type		Denier	Fila- ment									
			W F	W F	W F		Min Max		W F	W F	W F		W F	
Net, Laundry, (Nylon) JJ-N-180d, Am. 1 (See also under														

Type I - With
grommets
Type II - Without
grommets

Size 1- 10x15 in.	Nylon	260	16	18	3.0	3.6	1 leno 46- 26-
Size 2- 12x22 in.	"	260	16	18	3.0	3.6	1 weave 48 28
Size 3- 18x30 in.	"	260	16	18	3.0	3.6	"
Size 4- 24x36 in.	"	260	16	13	3.0	3.6	"

Cloth, Acetate-Rayon,
Tow Target, Rip-Stop
Will Weave
MIL-C-333C

Bright
acetate
yarns &
medium
high ten-
acity vis-
cose rayon
yarns.

(1) - 5.3' 2 twill (a) (5104)
1 148 55 65 50 5 5 5
(2 W ends weaving as 1) (1.5 at pressure drop of 1/2 in. across the cloth)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
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JJ-N-180d Type I Type II Size 1 Size 2 Size 3 Size 4	Nylon fabric shall be scoured and heat set.	Color - Shall be white (natural).	Selvaige to be used at the bottom of the net for sizes 3 & 4 bags shall be reeded alternately 4 ends & 2 ends per dent to a minimum width of 3/4 in. Selvaige for the top pin edge of all sizes shall be reeded 2 ends per dent, skip 1 dent, 2 ends per dent for 2-2 1/2 in., then alternate 4 ends & 2 ends per dent to a minimum width of 3/4 in. Meshes per inch: 598-675. Bursting strength: 175 lb. min. (5120). Grommets shall conform to Type I, Class 1, Size 4 of MIL-G-16491.	Intended Use - in laundries for washing items of clothing.
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MIL-C-333C	Scoured. Cloth shall contain no sizing, lubrication, or weighting materials. Smooth, glazed surface. Cloth shall not contain chloro- form-soluble material in excess of 2% of dry weight. (2611). pH: 6.0 - 8.0 (2811).	Color (1-3). Colorfastness - "good" (5630-5632-5651-5660).	(a)The rip-stop weave shall repeat on 31 ends of bright acetate & 3 ends of medium high-tenacity viscose rayon & on 16 picks of bright acetate & 2 picks of medium high-tenacity viscose rayon. Missing rip-stop picks in the filling shall be marked in the greige state (4). Elongation: Warp - 12% max; Filling - 20% max. (5104).	Intended Use - In the manufacture of aerial tow targets.
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SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Perme- bility (5450)	Shrink- age Max. (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Cloth, Satin, Rayon And Cloth, Twill, Rayon MIL-C-368F, Amd. 1			W F	W F	W F		Min Max		W F	W F	W F		W F	
Class 1 - Twill 2/1 right, 3.7 oz.		Rayon			Multi- fila- ment	(5) 41	3.7 - 2 min. 1		121 67	(dry) 100 50	(wet) 40 20		(5550) 6% 3%	25.00
Class 2 - Twill 2/1 right, 4.2 oz.		"			"	"	4.2 - right twill		142 71	115 55	46 22		6% 3%	25.00
Class 3 - Satin 5-harness, 5 oz.		"			"	"	4.5 - 5-harness satin (4)		180 67	150 55	60 22		6% 3%	25.00

Cloth, Nylon Bunting
And Cloth, Nylon-And
Wool Bunting
CCC-C-476d
(See also under
Mixed Fiber Cloths)

Type I - 100%
nylon filament
Class A - Lt. wgt.
Class B - Hvy. wgt.

Type II - 75% nylon
(staple) and 25%
wool (See under
Mixed Fiber Cloths)

Bright	1	2	70	70	Contin-	(1)	2.7	-	Plain	106	76	125	155
high	1	1	200	or	uous	±2	3.6	-	"	62	50	225	152
tenacity			210										

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-368F Class 1 Class 2 Class 3	Natural finish. Use of resins, oils, starches, or gums in the finishing of the cloth is prohibited.	Color (1) - standard sample available (3-6). When an additive is required to fix the dyestuffs to the fibers, formaldehyde shall not be the principle fixing agent, and the additive material used shall not create an odor or cause degradation of the cloth during storage. Colorfastness - standard sample available (5680- 5622-5651).		Intended Use - In the manufac- ture of clothing items, as lining cloth.
CCC-C-476d Type I Class A Class B Type II	Commercial-type antistatic finish.	Color (1) - standard sample available. Colors for the Flag of the United States shall be in accordance with Spec. TT-C-591 and DD-F-416 (3). Colors other than for the Flag of the United States shall match the applicable color card of sample (3). Colorfastness - standard sample available (5632- 5630-5651-5660).	There shall be a plain woven selvage on each side, $\frac{1}{4}$ in. \pm 1/8 in. wide, with 2 ends weaving as 1.	Intended Use - In the manufac- ture of various types of flags.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN						Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max. (5556)	Point Value Max.
	Fiber		Ply	Yarns											
	Matting Point	Type		Denier	Fila- ment										
<u>Cloth, Pressing, Nylon</u> CCC-C-482a			W F	W F	W F	Min Max			W F	W F	W F		W F		
Type I - Spun yarn W & F	250° ± 6°C	(a) staple or multi- fila- ment nylon (1)	2 2	- -	- -	(5) 54 min.	7.0	Plain	38 36	210 220			3% 2%	35.00	
Type II - Fila- ment W and spun yarn F	"		- 2	260 or 210	bright multi- fila- ment	"	5.6	2 right 1 twill	66 54	280 240			3% 2%	35.00	
Type III - Spun yarn W & fila- ment yarn F	"		2 -	- 260 or 210	bright multi- fila- ment	"	5.6	"	54 60	240 280			3% 2%	35.00	
Type IV - Fila- ment yarn W & F	"		- -	260 or 210	bright multi- filament	"	3.6	Plain	60 42	250 180			3% 2%	30.00	

Cloth, Parachute, Synthetic-Fiber (For Ammunition Parachutes) MIL-C-498B

Typ D - Nylon (0.84 oz.)	472°F	nylon- poly- amide	30 30 ± 3%	Multi- fila- ment	(1) - ± 1/2	0.88	Plain	93 ± 3	40 40	(5136) 3 3	300-500
Type A - Nylon (2.20 oz.)	472°F min.	(a)	70 70 ± 3%	"	"	2.20	"	104 91	65 65	4 3	60-100

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
CCC-C-482a Type I Type II Type III Type IV	Cloth shall be heat treated at not less than 380°F. heat treated cloth shall be given an additional resin or other type of finish to increase the heat resistant properties. Warp and filling yarns of the finished cloth shall not slip or distort (5410). Finished cloth shall not lose more than 50% initial breaking strength after aging (5850-5100). Finished cloth shall not adhere to heated hand iron which has not been treated with any antistick agent such as wax (4.1.2). pH: 4.5 - 8.0 (2811).	Color - Shall be the shade imparted by the finish, provided the individual pieces are uniform in shade. Colorfastness - standard sample available (4.4.1).	(a) Nylon shall be a polyamide prepared from hexamethylene diamine and adipic acid or its derivatives.	Intended Use - As covers for flat bed laundry presses.
MIL-C-498B Type D Type E	(8) Scoured to remove sizing and other contaminants. Cloth shall be heat treated and may be calendared at such temperature and pressure as required to control the air permeability. pH: 5.0 - 4.5 (2811).		(a) Polyamide shall be prepared from hexamethylene diamine and adipic acid or its derivatives. Elongation: 20% min. in warp and filling (5100). (Type D only).	Intended Use - In the manufacture of ammunition and flare parachutes.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Perme- ability (5450)	Shrink- age Max. (5556)	Poin- Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Cloth, Oxford, Nylon 3-Ounce MIT-C-508E, Amd. 1			W F	W F	W F	Min Max			W F	W F	W F		W F	

Cloth, Oxford, Nylon
3-Ounce
MIL-C-508E, Amd. 1

Type I - For cloth-
ing, equipage &
personnel armor
Class 1 - For
outerwear use
Class 2 - For
use as inner lining
Type II - For
coating

bright, high tenacity filament nylon	70	100	32- 34	32- 34	(1)	2.9	-	Oxford (Plain weave, 2 warp ends weaving as 1)	180	76	220	135		30.00
	70	100	"	"	(1)	2.9	-		180	76	220	135		30.00
"	70	100	"	"	(1)	2.9	-		180	76	220	135		30.00

Cloth, Synthetic,
Curtain

CCC-C-525a

Warp yarn 16/2, cut staple, copolymer
of acrylonitrile and vinyl chloride.
Yarn dyed.
Fill yarn 1.2 run cut staple, poly-
vinylidene chloride. Pigmented.

56	11.5	13.5	(4)	50	24	175	55
+1				+1	+1	(2)	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
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MIL-C-508E
Type I
Class 1
Class 2
Type II

(8)
Type I - cloth shall be scoured,
heat treated with dry neat and/
or boiling water, and lightly
calendered. Type II - cloth
shall be heat treated but not
calendered. Shall contain no
more than 0.0030% copper nor
more than 0.0015% manganese
(4.4.2). Finished cloth shall
show no distortion, puckering
or change in color, and not more
than 2% dimensional change(4.4.1).
pH: 5.0 - 8.5 (2511).

Color (1) - standard
sample available (3).
For Navy procurements
only, Type I cloth shall
be dyed to match Olive
Drab, Army Shade 7 and
shall be obtained by the
use of nonmetallized acid,
or disperse dyes; chrome
and premetallized dyes
are prohibited.
Colorfastness - standard
sample available.
Type I - (5622-5614-5660-
5651-5660).
Type II - (5622-5614-5660-
5651).

Intended Use - Type I, for
equipage and personnel armor.
Type II, for coating.

CCC-C-525a

Fire resistance: length of flame
3.0 sec. max.; length of char 4.5
in. max. (5902). There shall be
no change in fire resistance
after laundering or dry cleaning.
Hand, drape, and stiffness of
sample shall not change after
testing (4.4.4).

Color (1).
Colorfastness - no change
(5660-5651-4.4.1-4.4.3-
4.4.2).

Intended Use - For the fabri-
cation of fire-resistant
curtains.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age. Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
<u>Cloth, Twill, Nylon,</u> <u>1.6 and 3.0 Ounce</u> <u>MIL-C-577F, And. 1</u>			W F	W F	W F		Min Max		W F	W F	W F		W F	
Type I- 1.6 oz.		bright filament nylon		70 70 ±4 ±4	multi- fila- ment relv.	(1) 1/4 in.	1.6 1.8	2 right 1 twill	80 80	90 90	4 4			30.00
Type II- 3.0 oz.				70 100 ±4 ±5	"		3.0 3.3	2 right 2 twill	165 96	180 170	6 6			35.00
<u>Cloth, Banner, Rayon</u> <u>MIL-C-606D</u>		cupram- monium rayon	2 2		Multi- fila- ment	(1)	5.0 -	2 right 2 twill	232 94	125 50				

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-577F Type I Type II	Scoured, but not calendarized. (8). Cloth shall be heat treated. After treatment, cloth shall show no appreciable distortion, puck- ering, or fading; dimensional change shall not exceed 2% in either warp or filling (4.3.1).	Color (1) - standard available (3). Colorfastness - standard sample available (5620- 5614-5660-5651-5680).		Intended Use - Type I, as base fabric for coated fabrics. Type II, in cold weather items.
MIL-C-606D	Cloth shall have a hand and drape equal to the standard sample. Use of resin finishes to impart stiffness to the cloth is prohibited, unless otherwise specifically approved and authorized by the contracting officer.	Color (1) - standard sample available (3). Yarns shall be dyed prior to weaving, using water, naphthols, or cell- ulose reactive dyes as dyeing agents. Use of solution dyed cupra- monium yarns in lieu of the above is permitted if the hue and brilli- ancy of the shade can be achieved. There must be a degree of penetration of the yarn such that the color of the cloth shall be uniform over the full sample. Colorfastness - standard sample available (5620- 5614-5660-5651-5680).		Intended Use - In the manu- facture of various types of flags.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
			W F	W F	W F	Min Max			W F	W F	W F		W F	
<u>Cloth, Netting, Nylon</u> MIL-C-3395E (See under Knitted Cloths)														
Type I - Woven		bright or semi- dull nylon		70 70	Multi- fila- ment	(1) 1.6 2.0	3 picks plain 1 pick leno (4)	54- 54- 56 56	50 50				(5552) 2% 2%	30.00
Type II - Warp Knitted (See under Knitted Cloths)														
<u>Cloth, Duck, Nylon</u> MIL-C-3953C														
Class 1 - Untreated	250°C	High tenacity bright nylon	5 5	210 210 ±5% ±5%	34 34	(5) 36 min.	20.5 ± 1	3/4 basket (3 ends weaving as 1, 4 picks/ shed)	62 60 1100 1100	135 135				35.00
Class 2 - Melamine resin treated	250°C	poly- amide (a)	5 5	" "	34 34	" "	" "		62 60 1100 1100	135 135				35.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-3395E Type I Type II	Permanent resin finish. Character of the finished cloth shall be equal to that of the standard sample. Cloth shall be heat set and framed to appropriate dimensions, to assure the proper number of meshes/inch & the size of the meshes.	Color - Cloth shall be dyed Olive Green, Shade No. 106 (1). The use of pigmented resin emulsion finishes to provide color and finish in one operation will be permitted. Colorfastness - standard sample available (5614-5671).	Mesh size, initial: 0.035 in. max. in warp & filling. Mesh size, after 3 launderings & slippage test: 0.100 in. max. in warp & filling. Meshes/in.: 729-784.	Intended Use - In tentage and equipment items.
MIL-C-3953C Class 1 Class 2	Class 2 - Cloth shall be impregnated with a suitable type of melamine resin, and the finished cloth shall have a stiffness of 0.45-0.65 in. lb. in the warp and 0.5-0.65 in. lb. in the filling. pH: 5.5 - 8.5 (2811).	Color (1) - standard sample available (3). Colorfastness - standard sample available (5614-5671).	(a) Nylon shall be prepared from hexamethylene diamine & adipic acid or its derivatives. Ultimate elongation: 20% min. in the warp and 20% min. in the filling. (5100).	Intended Use - In the manufacture of parachute equipment.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Cloth, Nylon and Rayon, Spun MIL-C-4072A (USAF)			W F	W F	W F		Min Max		W F	W F	W F		W F	
										(5104)	(5136)		(5552)	
Type I- 4.5 oz.	Type I and II:				(9) 45	4.3	-	Oxford	200 72	150 70	55 7	10	2%	2%
Type II- 6.0 oz.	Warp Yarn: Nylon, continuous, bright, 70 denier, 34 filament (Type 100 nylon). Filling yarn: Rayon, high tenacity, long staple viscose; direct spinning from tow.				2	5.6	-	(2 warp ends weaving as 1)	220 57	160 125	65 16	8	2%	2%

Cloth, Plastic, Mesh MIL-C-4141A (URAP)

Type I- 12x12 mesh	Vinyl- idene	Contin- (1) -	13.0	Plain	12 12	(5104) 95 90
Type II- 20x20 mesh	Chloride	uous extruded(1) -	7.0	1 up 1 down	20 20	65 65
		monofila- ment				

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
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MIL-C-4072A Type I Type II	Scoured, singed, dyed & given a water repellent treatment (10). Use of dvestuffs, detergents, or other chemicals which would cause deter- ioration in storage or cause derma- titis on prolonged skin contact is prohibited. Finished cloth shall exhibit no mark-off characteristics. Durable water repellent treatment. Use of non-durable-type water repel- lents such as wax or aluminum or zirconium soaps is prohibited. Spray ratings: Initial- 90, after 3 laun- derings- 70, after 3 dry cleanings- 70 (5526). Hydrostatic pressure: After 3 launderings- 30, after 3 drycleanings- 35 (5514).	Color(1) - to be obtain- ed by acid milling & selected direct or vat dyes (3). Colorfastness - standard sample available (5614- 5620-5651-5660-5682).		Intended Use - In the manufac- ture of rainwear.
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MIL-C-4141A Type I Type II		Color - Olive Drab to conform with Shade No. 3412 of Spec. TT-C-595.	Thickness: Type I- 0.040 ± 0.005 in. Type II- 0.025 ± 0.005 in. (5030). Elongation: Type I- 20% min. in W & F; Type II- 20% min. in W & F (5104). Well made splices showing no tails shall be permitted at any point of any individual filament; provided the number of splices does not exceed 4 in any length of 1 lin.ft. Velvete: Type I- 7/8 in. 11/32 in., with 24 ends reeled 2 ends per lent; Type II- 4 ends per dent.	Intended Use - Type I, in the manufacture of Radar tow targets. Type II, spring covering in Anti-"G" Suits.
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SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5134)	Air Permea- bility (5450)	Shrink- age Max. (5556)	Fold Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Cloth, Polyethylene, Leno MIL-C-4222B (ASG) Am. 2			W F	W F	W F		Min Max		W F	W F	W F		W F	
Type I		Poly- ethylene		(a) 36 or 72	(7) 36 Continuous extru- ded mono- filament	-	7.5	3-end leno (4)	12 11 12 9 (24 ends each selv.)	(5104) 35 35 35 35				
Type II														

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-4222B Type I Type II	Use of dyestuffs, detergents, or other chemicals or finishing agents which would cause deterior- ation in storage is prohibited.	Color - Cloth shall be made from natural, undyed or unpigmented monofilaments unless otherwise specified by the procuring activity.	(a) Type II monofilament shall be wrapped with an aluminum foil stripping 0.03 ± 0.005 in. width & 0.0015 ± 0.0001 in. in thickness, with a min. of 20 wraps/in. of stripping around the monofilament. Elongation: 30% min. in the W; 25% min. in the F. Selvage: 11/16 in. ± 3/16 in. Tight or wavy selvages shall not be permitted. All monofilaments shall be 0.021 ± 0.002 in. in diameter (exclusive of aluminum foil). Well made splices showing a min. of tails shall be permitted at any point of any indi- vidual monofilament, pro- vided that the number of splices shall not exceed 30 in any length of 100 yd. & that there are no more than 5 splices/100 yds. in any given monofilament.	Intended Use - In the manufac- ture of tow targets & equipage.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Perme- ability	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Spinning Point	Type		Denier	Fila- ment									
Cloth, Synthetic Fiber, Text MIL-C-2023 (USAF)		W F		W F	W F		Min Max		W F	W F (5100)	W F		W F	
		Copolymer 7	5			(1)	20.0 - Plain		28	16	240	100		

Cloth, Synthetic	W	F	W	F	W	F	Min/Max	W	F	W	F	W	F
Fiber, Rayon										(510k)			
MIL-C-4424B (USAF)	Copolymer	7	5				(1) 20.0 - Plain	28	16	240	100		
	of vinyl						1 up						
	chloride						1 down						
	& acry-												
	lonitrile												

Cloth, Nylon, Twill
MIL-C-4424A (USAF)
Am. 4

Type I- 3.3 oz.
(nominal weight)

Class A - Finished

natural - Bright nylon

Class B - Water

resistant treatment -

40- - 3.30 (a) 170 85 120 120 7 7 15 max. 2% 1 1/2
41 3.35 right twill 170 85 115 115 8 8 15 max. 2% 1 1/2

Type II- 5.4 oz.
(nominal weight)

Class A- Finished

natural -

Class B- Water

resistant treatment -

Class C- Finished

natural - heavily

calendered -

Class D- Water

resistant treatment

heavily calendered -

" - 5.40 250 72 170 160 10 10 18 max. 2% 1 1/2
" - 5.50 250 72 160 155 10 10 18 max. 2% 1 1/2
" - 5.40 250 78 150 160 7 7 10 max. 2% 1 1/2
" - 5.50 250 78 140 150 9 9 10 max. 2% 1 1/2

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-4424B	(8) pH: 5.0 - 9.0 (2811).	Color - shall be natural undyed unless otherwise specified.	Thickness: 0.039 in. min. (5030). Stiffness: 0.300- 0.750 lb. in the warp; 0.300-0.500 lb. in the filling (502).	Intended Use - As a visor stiffening material and for use in the protector pads of Anti- "G" Suits and high altitude pressure garments.

MIL-C-4294

Type I

Class A

Class B

Type II

Class A

Class B

Class C

Class D

All types and classes - smooth &
free from wrinkles. Type I, Class
B and Type II, Classes B and D:
shall be given a durable water
resistant treatment. Spray
rating: Initial- 100; After 3
laundings or dry cleanings-
70 (5526). Type II, Class C
and D: shall be heavily calendered.
All types and classes - finish
shall be a "permanent finish".
pH: 6.0 - 8.0 (2810-2811).
(8)

Color - Unless otherwise
specified, cloth shall
match standard shade
Sage Green, No. 511 (3).
Colorfastness - "good"
(5620-5682-5670-5614).

(a) At the contractor's
option, the weave of Type
II cloth may be a 3-up,
1-down right hand twill.
Ultimate elongation: all
types and classes, both
warp and filling - 20%
min. (5100).

Intended Use - In the manufac-
ture of flying clothing, as
liner and exterior materials,
and for cover of casualty bags.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Gz/ Sq Yd	Weave	Yarns Per in. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Perme- ability	Shrink- age Max.	Faint Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
			W F	W F	W F	Min Max		W F	W F	W F		W F		
Cloth, Parachute, Nylon MIL-C-7020E		(a)												
Type I- 1.1 oz. rip-stop weave	250° +6°C	Poly- amide				36.5 +0.5	- 1.1	(4)	120 120	(5104) 42 42	5 5	100±20	2% 2%	
Type II- 1.6 oz., twill weave	"	"				"	- 1.6	2 Twill	120 76	50 50	5 5	130±30	2% 2%	
Type III- 1.6 oz. rip-stop weave	"	"				"	- 1.6	(4)	120 76	50 50	4 4	130±30	2% 2%	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-7020E Type I Type II Type III	(8) Type I- cloth shall be given a preliminary scour sufficient to remove sizing & other contamination at a temperature that will not cause fixation of same into cloth or result in permanent setting of the cloth. Cloth shall be dried & calendered at sufficient temperature & pressure to control air permeability. Pre-scour may be omitted & clean greige goods be subjected directly to calendering. Further wet processing of the cloth may be accomplished at a temperature in excess of 200°F in order to stabilize air permeability. Length of time required for complete setting of the cloth at this temperature shall be sufficient to shrink & set the cloth. Types II & III - above process optional. None of the types shall be bleached in any manner or process. Finish shall be permanent and stable. Finished cloth shall contain a silicone oil, evenly distributed. pH: 5.0 - 9.0 (2811).	Color- shall be natural, International Orange No. 22197, Olive Green No. 126 Sand No. 1005, conforming to a submitted standard shade (3). Colorfastness - standard sample available (5614-5620-5630-5660).	(a) Nylon shall be a bright, high tenacity, light & heat resistant polyamide prepared from hexamethylene & adipic acid or its derivatives. Yarn shall not be bleached in any manner. Thickness: Type I- 0.003 in. max.; Types II & III- 0.004 in. max. (5030). Elongation, both directions; All types- 20% min. (5104). Light & heat resistance: finished cloth shall not lose more than 25% of its original strength when tested (4,4,6).	Intended Use - Primarily in the manufacture of parachutes. Also, as a base cloth for coated fabrics.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarn Per in. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5134)	Air Perme- ability (5450)	Shrink- age Max. (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Cloth, Deck, Brown Parachute Packs MIL-C-7219C			W F	W F	W F	Min Max			W F	W F	W F		W F	
Type I- 9.5 oz.	290° ± 6°C	(a) Bright high tenacity nylon	(b) 2 3		(b) Multi- fila- ment	(1) - 9.50	Plain 1 up 1 down	60 38	(5104) 400 300	35 45	5.0	2½ 2%		
Type II- 8.75 oz.	"	(c) "	(b) 2 2		"	(1) - 8.75	"	78 38	400 150	35 20	5.0	2½ 2%		
Type III- 7.25 oz.	"	(a) Bright high tenacity nylon	(b) 2 2		Warp: filament Filling: staple	(1) - 7.25	"	60 45	325 275	20 20	8.0	2% 2%		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-7219C Type I Type II Type III	Cloth shall not be bleached in any manner or process. Cloth shall be given a durable water resistant treatment. Spray rating: Initial- Type I- 80, 80, 80; Type II- 80, 80, 70; Type III- 90, 90, 80. After 3 dry cleanings: Type I- 70; Type II- 70, 70, 70; Type III- 70, 70, 70 (5526). Hydrostatic pressure: Type I- 25; Type II- 30; Type III- 25 (5514). Blocking: unless otherwise specified, there shall be no sticking of cloth to cloth. (5872).	Color - Types I & II shall match TCA Cable No. 66022, Shade S-1 (U.S. Army Olive Drab) or Olive Drab No. 106 or TCA Cable No. 70072, Indian orange (crepe side) or Orange 70072, as specified. Type II- shall match Sage Green No. 1535 or Olive Green No. 106, as specified (3). Colorfastness - standard sample available (5614-5620-5651-5660).	(11) (a) Nylon yarn shall be a light and heat resistant polyamide prepared from hexamethylene diamine & adipic acid or its derivatives. (b) Plied yarns or a single multifilament yarn of equivalent denier may be used. (c) Warp yarn shall be bright high tenacity filament; filling shall be bright or semi-dull nylon staple of such staple length and denier to conform to the requirements listed.	Intended Use - In the manufacture of parachute packs & equipment other than parachute packs.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
			W F	W F	W F		Min Max		W F	W F	W F		W F	
Cloth, Nylon, Parachute, Cargo MIL-C-7350C (ASG) Amd. 1														
Type I	250°C +60°C	(a) High tenacity nylon				36½ +½ -½	- 2.25 (4)		70 70	(5104) 90 90	10 10	100-150	2% 1%	
Type II							- 3.50 (4)		52 52	135 125	30 30	150-200	2% 1%	

Cloth, Nylon, Ballistic MIL-C-7812C (AER)

Type I- 7.5-8.5 oz. Plain weave	Nylon	7	1	210	40	34	13	(1)	7.8 8.5	Plain	38 30	800 -		3%	2%
Type II- 17-18 oz.	"	1	1	840	840	140	140	(1)	17 18	3 broken twill (3 ends weaving as 1, 3 picks in the shed)	73 68	900 800		2%	2%
Type III- 12.4-12.8 oz.	"	5	5	210	210	34	34	(1)	12.4 12.8	2x2 basket	40 40	(5102) 580 625 min.		7 $\frac{1}{2}$ %	7%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-7350C Type I Type II	(8) Permanent finish; air permeability shall not change more than 15% & thickness shall not increase more than 10% for Type I and 15% for Type II when tested (4.3.2.2). pH: 5.0 - 9.0 (2811).	Color - natural, unless otherwise specified. When color is specified, std. sample is available (3). Colored cloth shall be dyed with acetate- or acid-type dyes. Metalized or chrome-type dyes shall not be used. Colorfastness (1), except Olive Green, Shade 106, which shall be "fair" (5660) & "good" (5651).	Ultimate elongation: 25% min. for both types, W & F (5104). Thickness: Type I- 0.0060 in. max.; Type II- 0.014 in. max. (5030). Load required to separate the seam $\frac{1}{2}$ in. shall be not less than 10 psi in either the warp or filling direction (4.3.2.1).	Intended Use - In the manufacture of cargo parachute canopies.
MIL-C-7812C Type I Type II Type III	(8) Type II- cloth shall be heat set at 100 \pm 1°C by passing through boiling water & allowing free relaxation to occur. After heat setting, an acrylic resin, Rohm and Haas Rhoplex E-21 or equivalent, shall be applied to one side of the cloth. Resin applied shall not be less than 3% nor more than 5% of the weight of the heat set cloth. Types I & III: No starch, resin or other stiffening ingredient shall be present in the finished cloth.	Color - color of the finished cloth shall be natural.	Thickness: Type I- 0.028-0.032 in.; Type II- 0.035-0.039 in.; Type III- none specified. Elongation: Type I- 20-30% in both W & F; Type II- 20-40% in both W & F; Type III- 25% min. in the warp and 20% min. in the filling.	Intended Use - In the manufacture of flak protective vests and curtains used in aircraft, and fragmentation protective body armor worn by Marine Corps personnel.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per in. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Perme- ability	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Making Point	Type		Denier	Fila- ment									
									(5050)	(5100)	(5134)	(5450)	(5556)	
Cloth, Nylon, Twill Mil-C-7978 (ARM)		Bright Nylon	W F 1 2	W F 210 210	W F 3/4 3/4		Min Max - 6.2 2	right 1 twill	W F 60 45	W F 350 400	W F 25 35		W F	

Cloth, Parachute,
Nylon, Cargo and
Deceleration
MIL-C-8021C

Type I- 4.75 oz. max.	250°C min.	(a)	Nylon	1 1		36 1/2	- 4.75 2	twill	70 70	200 200	15 15	50- 450- 2% 2%		
Type II- 7 oz. max.	"	"	"	2 2		42	- 7.00 (4)		53 48	300 300	20 20	90 650 2% 2%		
Type IIA- 10.5 oz. max.	"	"	"	4 4		"	- 10.50 (4)		40 38	500 500	75 75	90 650 2% 2%		
Type III- 14 oz. max.	"	"	"	1 1		"	- 14.00 (4)		38 38	600 600	75 75	55 250- 450 2% 2%		

Class 1- Air
Permeability at 1/2 in.
water pressure.
Class 2- Air
Permeability at 20 in.
water pressure.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-7978	Natural finish (greige state).			Intended Use - In the manufac- ture of sea anchors for patrol type aircraft.

MIL-C-8021C
Type I
Type II
Type IIA
Type III
Class 1
Class 2

(8)
Permanence of finish to be tested
(4.2.4.1). Cloth thickness after
testing shall not be more than 10%
more than the thickness before
testing. The average of the air
permeability readings taken after
testing shall be within ±15% of
the average of the readings
taken before testing. Cloth
shall not be bleached in any
manner or process.
pH: 5.0 - 9.0.

Color - unless otherwise
specified, color shall be
natural. Standard sample
available(3) for dyed
cloths.
Colorfastness - standard
sample available for
dyed cloths (5614-5620-
5660).

(a)Nylon shall be a bright
high tenacity, light &
heat resistant, polyamide
prepared from hexamethyl-
ene diamine & adipic acid
or its derivatives. Yarn
shall not be bleached in
any manner or process.
Elongation: Types I, II,
& III- 25% min. in both
W & F. Type IIA- 35% min
in both W & F (5104).
Cloth for fabricating
new parachutes shall
not be more than 2 yrs.
old from the date of
manufacture to the date
of delivery. Age of
cloth for repair &
maintenance of para-
chutes shall be as
specified by procuring
activity.

Intended Use - In the manufac-
ture of cargo & deceleration
parachutes.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb Min.	Tearing Strength Lb	Air Perme- ability	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Cloth, Nylon, Dobby MIL-C-8321 (USAF)			W F	W F	W F	Min Max			W F	W F (5104)	W F		W F	
		Bright nylon			Contin- uous	(1) 3.25-2.25	(4)	175 85		160 125	10 7	50	2% 1%	

Cloth, Glass,
Finished, For Poly-
ester Resin Laminates
MIL-C-9084B, Amd. 1
(ASG)

(ASG)							(a)		Thickness (in)		(Thousands of psi)	
											Standard	Met
Type I- 112	Glass	1/ 2	450	Contin-	(1)	1.76 2.20	Plain	39 38	0.003 - 0.005		50	45
Type II- 116	yarns	1/ 2	450	uous	(1)	2.68 3.35	"	59 57	0.004 - 0.006		45	40
Type III- 120		1/ 2	450		(1)	2.68 3.35	Crowfoot	59 57	0.004 - 0.006		50	45
Type IV- 128		1/ 3	225		(1)	5.08 6.35	Plain	41 31	0.007 - 0.009		45	39
Type IVA- 128-150		1/ 2	150		(1)	5.08 6.35	"	41 31	0.007 - 0.009		45	39
Type V- 143		3/2 1/2	225 450		(1)	7.88 9.85	Crowfoot	48 29	0.008 - 0.012		90	78
Type VA- 143-150		2/2 1/0	150 225		(1)	7.88 9.85	"	48 29	0.008 - 0.012		90	78
Type VI- 162		2/ 5	225		(1)	10.24 12.80	Plain	27 15	0.015 - 0.019		35	30
Type VII- 164		4/ 3	225		(1)	10.92 13.65	"	19 17	0.014 - 0.017		35	30
Type VIIA- 164-150		4/ 2	150		(1)	10.92 13.65	"	19 17	0.014 - 0.017		35	30
Type VIII- 181		1/ 3	225		(1)	8.00 10.00	Satin	56 53	0.008 - 0.012		50	45
Type VIIIA- 181-150		1/ 2	150		(1)	8.00 10.00	"	56 53	0.008 - 0.012		50	45
Type IX- 182		2/ 2	225		(1)	11.20 14.00	"	59 55	0.012 - 0.015		50	45
Type IXA- 182-150		1/ 3	150		(1)	12.40 15.50	"	59 55	0.013 - 0.016		50	45
Type X- 183		3/ 2	225		(1)	14.40 18.00	"	53 47	0.018 - 0.022		45	40
Type XI- 184		4/ 3	225		(1)	21.76 27.20	"	41 35	0.026 - 0.032		45	40
Type XIA- 184-150		4/ 2	150		(1)	21.76 27.20	"	41 35	0.026 - 0.032		45	40

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-8321	(8) Use of dyestuffs, detergents, or other chemicals or finishing agents which would cause deterioration in storage or cause dermatitis on pro- longed intimate skin contact is prohibited. pH: 5.0 - 9.0 (2811).	Color (1). Colorfastness - "good" (5614-5620-5660-5682).	Ultimate elongation: 25% min. in both directions (5104).	Intended Use - In the constru- ction of flying clothing.

MIL-C-9084B	Cloth shall be cleaned & shall then be treated with a finish which will produce the characteristics requir- ed by finished glass cloth in this specification, including the requi- red performance characteristics when tested with the applicable laminating resin.	Color - the color of the finished cloth shall be uniform and shall be characteristic of the applied finish.	(a) See specification for weave description & diagrams.	Intended Use - In fabricating polyester resin laminates for structural parts, radio & radar antenna housings, & other applications. They are specifically intended for use in fabricating laminates conforming to Spec. MIL-P- 8013 and plastic sandwich materials conforming to Spec. MIL-S-9041.
Type I				
Type II				
Type III				
Type IV				
Type IVA				
Type V				
Type VA				
Type VI				
Type VII				
Type VIIA				
Type VIII				
Type VIIIA				
Type IX				
Type IXA				
Type X				
Type XI				
Type XIA				

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Matting Point	Type		Denier	Fila- ment									
									(5050)	(5100)	(5134)	(5450)	(5556)	
			W F	W F	W F		Min Max		W F	W F	W F		W F	

FALL - INITIAL
NOV - 1979
NY-1-1079C

Both Glasses:

MIL-8-10679C
Class 1- Tan 125
Class 2- White 3030

Both Classes:
Warp: continuous filament, 100 denier
dull acetate, 25-40 filaments.
Filling: continuous filament, 100
denier dull rayon, 25-60 filaments.

Cloth, Acetate,
(Saponified), Rip-
Stop
MIL-C-10772A
Amd. 3

Saponified
oriented
cellulose
ester

60 60 80 80 (9)
36 1.8 - Plain 126 106 95 80 3% 1%

(double end
every 20th
end, double
pick every
18th pick)

Cloth, Rayon
MIL-C-11460 (ORD)
Amd. 1

(a)
Viscose
rayon

(1)
36 5.0 5.75 70- 70-
min. 200 140 50 ± 15

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-8-10679C Class 1 Class 2		Color - Class 1: tan 125 Class 2: White, Navy color 3030 (6). Standard samples available (3). Colorfastness - standard sample available (5651- 5614-5680-5682).		Intended Use - Scarf for use by female personnel of the Army (tan) and the Navy (white).
MIL-C-10772A	Natural finish (10).	Color - to match an appro- (11) ved standard shade of Olive Green 106, obtained by pig- mentation of the cellulose acetate solution prior to the spinning of the yarn. The pigmentation shall con- sist of carbon black & appropriate organic color pigment (3). Colorfastness - standard sample available (5660- 5651-5614-5622-5682).		Intended Use - In the manufac- ture of various types of cold climate clothing.
MIL-C-11460	Cloth shall be uniform and have no visible imperfections.(8). Acidity or alkalinity: Mineral- none; Organic- 0.10% max.	Color - natural unbleached or bleached white.	(a)The rayon shall contain no acetyl groups & not more than 0.2% sulfur.	Intended Use - For liners for recoilless cartridge cases.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per in. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Perme- ability	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
			W F	W F	W F	Min	Max		W F	W F	W F		W F	
<u>Fabric, Glass, woven</u> MIL-F-12298A (MU)														
	(a)													
Type I- Lightweight	Fibrous	2	2		Contin-	(1)	5.37 ±10%	Plain	34	32	110	90		
	"E" glass				uous	±1			±2					
Type II- Medium vgt.	"	3	3		"	"	8.90 ±10%	8-	57	54	145	130		
								harness	±2					
Type III-Heavy vgt.	"	2	2		"	"	16.75 ±10%	satin	54	48	270	250		
									±2					

Cloth, Ballistic,

<u>Nylon</u> MIL-C-12369D (GL) 250 ⁰ C ±6 ⁰ C	(a) Bright high tenacity nylon	1050	1050	Multi- fila- ment	48- 47	14.0 +1.0 -0.5	2/2 basket (2 ends weaving as 1, 2 picks weaving as 1)	46	42	900	825		3%	2%	Undyed Natural 22.0 Lyed 18.0
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NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-F-12298A Type I Type II Type III	The amount of finish on the cloth, as measured by the chrome level, shall be not less than 0.03% nor more than 0.06%.		(a)Glass yarns shall be woven to conform to the weave requirements, heat- cleaned, and then finished with a methacrylate chromic chloride finish.	Intended Use - For use with phenolic resins in preparing Belleville springs for non- metallic mines.
MIL-C-12369D	Cloth shall be scoured & heat- treated and shall be processed to meet the ballistics resistance requirements of this specification. pH: 5.0 - 8.5 (2811) (10).	Color (1) - Unless other- wise specified, cloth shall be undyed (natural). Standard sample avail- able for colors (3), which shall be obtained by piece dyeing using neutral premetallized dyes applied at a pH value consistent with the highest temperature possible for the appara- tus used. Colorfastness - standard sample available (5660).	(11) (a)Nylon shall be prepared from hexamethylene diamine and adipic acid or its derivatives. Ultimate elongation: 25% in the warp; 20% in the filling (5100). The ballistic limit V ₅₀ for 12 layers of unbonded cloth shall be not less than 1225 ft/sec (4.4.1).	Intended Use - In the manufac- ture of body armor, helmets, and armored clothing.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per in. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Cloth, Acrylic (For Cartridge Bags) MIL-C-12800 (ORD) Amd. 1			W F	W F	W F	Min Max			W F	W F	W F		W F	
		(a) Acrylic				(1) 2.3 2.7	Plain, single		50 50	40 40				

Cloth, Cartridge,
High Tenacity Direct
Spun Viscose Rayon
MIL-C-13540 (ORD)

(a)
High
tenacity
viscose
rayon

(1) 2.8 3.2 Plain,
single 60- 60- 50 50
65 65

Labels, Garment
(Woven, Rayon)
MIL-L-15040E

Size A- 1-5/16x3"
Size B- 3/4 x 2"
Size C- 2-1/4 x 4"
Size D- 2-1/4 x 5"

Regener-
ated
cellu-
lose
(Viscose
or Cup-
ramonium)
Rayon
Ground warp: 100 denier
singles or 50 denier, 2
ply; 144 ends per in. min.
Ground filling: 75 denier
singles, 92 picks per
in. min. Figure filling:
150 denier singles, 92
picks per in. min.

Taffeta
and
figured

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
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MIL-C-12800
(8-10)
Cloth shall pass the objectionable
sizing test (4.15). Cloth shall
be boiled off or scoured to remove
sizing materials.

(a) Yarns shall be spun from
acrylonitrile polymer fibers
or copolymers of acryloni-
trile containing no halogens
such as chlorides, bromides,
fluorides, or iodides.
Slippage: 10% min. in warp
and filling (5100).
Stretch: 10% max. in the
warp and filling.

Intended Use - In the manufac-
ture of cartridge bags for
ammunition for 75mm. & 105mm.
Howitzers. Not for use with
propellants containing nitro-
guanidine.

MIL-C-13540
(2)
The cloth shall pass the object-
ionable sizing test (4.14).
pH: 5.5 - 7.7 (2-11).

(a) The warp yarns only
shall be sized with gelatin
applied from an aqueous
bath not to exceed 165°F,
containing 3% (by weight of
bath) of an undegraded gel-
atin and 0.25% (by weight
of bath) of paranitrophenol.
Slippage: warp- 135 min.;
filling- 125 min. (5100).
Stretch: 8.5% max. in both
warp and filling (4.4).

Intended Use - In manufac-
turing cartridge bags for
artillery propelling charges.

MIL-L-15040E
Size A
Size B
Size C
Size D

Color - Background & sel-
vages shall be Shade
Black 211 & the design &
legend shall be white to
match the standard sample
(3-6). Design & legend
(1).
Colorfastness - standard
sample available (5622-5640).

Selvages: Sizes A & B 100
denier singles or 50 denier
2 ply; " double ends each
selvage. Sizes C & D-
100 denier singles or 50
denier 2 ply; 12 double
ends each selvage.

Intended Use - In the
manufacture of cartridge bags
which will be primarily used to
contain the propellant in the
ammunition. The bags shall be
the appropriate size from

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
			W F	W F	W F	Min Max			W F	W F	W F		W F	
<u>Cloth, Parachute,</u> <u>240-Permeability;</u> <u>For Use with Under-</u> <u>Water Ordnance</u> <u>MIL-C-17208A (BuOrd)</u> <u>Amd. 1</u>														
Type I- Nylon														
Class A- 4.0 oz.														
Class B- 8.0 oz.														
Class C- 10.0 oz.														
Type II- Saponified														
Acetate														
Class A- 4.0 oz.														
Class B- 8.0 oz.														
Class C- 10.0 oz.														
Cloth, Saran, Utility														
Bag														
MIL-C-18449A (NAVY)														

10 mil								(a)		(b)				
pigmented								4/4	67	48	155	140		
polyvinyl-								double						
idene								end skip						
chloride								twill (4)						

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-17208A Type I Class A Class B Class C Type II Class A Class B Class C	Smooth and even, containing no sizing, lubricating, or weighting materials. Thickness shall not increase more than 10% after testing (4.4.1). pH: 4.5 - 8.5 (2810).	Color - when color is not specified in procurement document, no coloring mat- ter of any sort shall be added to cloth or yarn. Camouflaging (1) - std. samples or instructions. Colorfastness (5632).	Elongation: Class A, Type I- 25% min. in both dir- ections. Type I, Classes B & C- 30% min. in both directions. Type II, Classes A, B, & C- 10% min. in both directions.	
MIL-C-18449A	Flame resistant treated - Ave. length of flame- 3 sec. max. Ave. length of char- 4.5 in. max. (5903T).	Color - Green 3428 - std. sample available (3). Colorfastness - standard sample available (5651- 5660). (a)Warp: 4 ends of green & 4 ends of white with double ends of each color weaving as one. Filling: all natural color.	(11) (b)Breaking strength after heat aging- 145 lb. min. in the warp; 130 lb. min. in the filling.	Intended Use - In the manufac- ture of fire-resistant utility bags primarily intended for personal bunk storage in sur- face ships and submarines.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN						Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns											
	Matting Point	Type		Denier	Fila- ment										
										(5050)	(5100)	(5134)	(5450)	(5556)	
<u>Cloth, Twill, Nylon</u> <u>(Low Count, 3-5</u> <u>Once)</u>			W F		W F	Min	Max		W F	W F	W F		W	F	
MIL-C-19256B (SA)	244°C min.	Bright luster nylon		210 21	0 30 min.	(1)	3.4 3.6	3-harness 2 right 1 twill	56 56	225 210			2%	2%	20.00

Cloth, Parachute
(For Ring-Rivet Type
Parachutes Used in
Underwater Ordnance)
MIL-C-19262 (Murd)
Amd. 2

Type I- Nylon														
Class A- 5.0 oz.		High		Multi-	40-	-	5.0	(4)		350 130	45	20	60±15	2% 1%
Class B- 8.0 oz.		tenacity		fila-	48		8.0			560 210	70	30	60±15	2% 1%
Class C- 10.0 oz.		nylon		ment			10.0			625 425	75	60	80±20	2% 1%
Type II- Saponified Acetate														
Class A- 5.0 oz.		Saponified		Contin-	40-		5.0	(4)		250 160	35	25	60±15	2% 1%
Class B- 8.0 oz.		oriented		uous	48		8.0			400 260	55	44	60±15	2% 1%
Class C- 10.0 oz.		cellulose acetate		multi-			10.0			500 330	70	55	80±20	2% 1%
				filament										

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-19256B	(8) Natural finish; not calendered. 0.003% copper max.; 0.0015% man- anese max. Cloth shall be fully heat set at 400°F. Cloth shall show no appreciable distortion or puckering, and not more than 2% dimensional change. pH: 6.0 - 10.0 (2811).	Color - cloth shall be Green 3410 - std. sample available (3). Colorfastness - standard sample available (5614- 5622-5651-5680-5660).	(11) Selvage: each selvage shall not exceed 1/8 in. Flex- stiffness: 2.5 in. 1" x 10 ⁻⁴ max. in the warp; 1.8 in. lb. in the filling.	Intended Use - As a base material for synthetic rubber coating.
MIL-C-19262 Type I Class A Class B Class C Type II Class A Class B Class C	Smooth and even, containing no sizing, lubricating, or weighting materials. pH: 4.5 - 8.5 (2810). Increase in thickness - 10% max. (4.4.1).	Color - when no color is specified in procurement document, no coloring matter of any sort shall be added to cloth or yarn. Camouflaging (1)- samples or instructions (1). Colorfastness - "good" (5632).	(11) All rope-selvage edges of the cloth shall be constrained by 1 pair (min.) of leno lock- ed ends (4), each leno end to be of the same denier as the body of the cloth. Selvage width: Classes A & B: 1 1/8 in; Class C: 1-1/8 in. Total ribbon width (Body + 2 selvages: Classes A & B: 12 1/8 in; Class C: 11 1/8 in. Width, separation: All classes - 1 1/8 in. Construction: Type I, Class A: 25% min. in both directions; Classes B & C: 20% min. in both directions. Type II, All Classes: 10% min. in both directions.	

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per in. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5134)	Air Perme- ability (5450)	Shrink- age Max. (5554)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point?	Type		Denier	Fila- ment									
Cloth, Nylon, Twill, Inflatable Life Preserver MIL-C-19377A (NAVY) Ami. 1			W F	W F	W F	Min Max			W F	W F	W F		W F	
		Bright high tenacity nylon		70 100 34 34	(1) selvage: 1/2 in. max.	3.0 3.3	2 2	right twill	165 96	(5100) 180 170 (5104) 160 140 method (1)	10 10		2% 2%	

Cloth, Glass, Woven Koving, For Plastic Laminate

MIL-C-19663B (NAVY)

Style 605-308
(ECC G-135-60-5-30-8)
Style 605-406
(ECC G-135-60-5-40-6)
Style 605-604
(ECC G-135-60-5-60-4)
Style 345-178
(ECC K-75-34 5-17-8)

Glass

Contin-
uous

(1) 24
nominal
(7)

Plain
(4)

(7)	length, face	Flexural Strength of laminate		length	cross
		face	face		
300 240	60,000 psi	50,000 psi	38,000	30,000	
300 240	60,000	50,000	38,000	30,000	
300 240	60,000	50,000	38,000	30,000	
170 136	60,000	50,000	38,000	30,000	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-19377A	(8) Natural finish: may be calendered. Copper content: 0.005% max. Man- ganese Content: 0.001% max. Cloth shall contain no skin irritants. Heat set (1). pH: 6.0 - 8.0 (2810 or 2811).	Color (1) - standard samples available. Colorfastness - "good" (5614-5620-5651-5660-5680).	(11) During preparation of the warp, care should be taken not to abrade the yarn. Smooth eyelets & burnished beddles should be used. Breaking strength after 96 hours accelerated aging at 70 ±1°C. 145 in the warp; 130 in the fill (5104); 160 in the warp; 155 in the fill (5100).	
MIL-C-19663B Style 605-308 Style 605-406 Style 605-604 Style 345-178	Finished cloth shall be free of oil spots, grease spots, and other contamination, creases, wrinkles, and other forms of permanent dis- tortion, and shall not be brittle or fused. Cloth shall have drap- ability characteristics suitable for the use intended and suffi- cient flexibility to withstand normal handling. Period of time for the resin wet-out shall be 15 min. max.	Color - characteristic of clean natural finished glass cloth.	Nominal average thickness for all styles: 0.045 in. Wet flexural strength after conditioning (4.2, 3.1.2.2 or 4.4.3.2.3) shall not be less than 80% of the dry flexural strength test value.	Intended Use - In laminated plastics for structural or semi-structural parts.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Perme- ability	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Spinning Point	Type		Denier	Fila- ment									
Cloth, Glass; Tarp, Textile, Glass; and Thread, Glass			W F	W F	W F	Min Max			W F	W F	W F		W F	

Cloth, Glass; Type,
Wettable, Glass; and
Wettable, Glass
MIL-C-20079C, And. 1
(See also under
Narrow Fabrics)

Type I- Cloth
Class 1- Satin
weave, lightweight

Fibrous
glass

Contin- (1) 9.43 8-harness 56 54 200 180
uous (untreated) satin ±2 ±2 (initial)
10.80
(treated) (after heating
to 900°F.)

Class 2- Satin
weave, heavyweight

Fibrous
glass

Contin- (1) 13.25 4-harness 48 32 300 225
uous (untreated)(crowfoot)±2 ±2 (initial)
14.76 satin 70 70
(treated). (after heating
to 900°F.)

Type II- Type
(See under
Narrow Fabrics)

Cloth, Cartridge, Rayon
MIL-C-20300

Viscose
Rayon
(no acetyl
groups)

275 275 120 12: (1) - 12.5 Plain
or any other suit- or
able other

300 300 Maximum Stretch

12.5% 12.5%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
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MIL-C-20079C
Type I
Class 1
Class 2
Type II

Cloth shall be treated with suit-
able synthetic resin.

Intended Use - As a lagging
material or jacket over
thermal insulation.

MIL-C-20300

(8-10)

When loads equal to 35% of
the breaking strength in
one direction & 50% in the
other direction are applied
to the seams as directed
(F-4d), the slippage of the
yarn shall not exceed 0.25
in.

Intended Use - In the assembly
of charges of propellant pow-
der - r cannon.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per in. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5134)	Air Permea- bility (5450)	Shrink- age Max. (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Matting Point	Type		Denier	Fila- ment									
<u>Cloth, Nylon</u> <u>Raft Bottom</u> MIL-C-21103A (MRP)			W F	W F	W F		Min Max		W F	W F	W F		W F	
Type I- Nylon, 2.5 oz. rip-stop twill, uncoated		Nylon 66 (polyhexa- methylene adipamide)				(1)	2.4 2.7	Plain (4 rip stop/in. 2 ends weaving as 1)	80 80	115 115	8 8			
Type II- Nylon 5.5 oz., plain weave, uncoated		"				(1)	5.5±0.5	Plain	22 22	225 225	45 38			
<u>Cloth, Nylon, Ribbed,</u> <u>Aircraft Upholstery</u> MIL-C-21318A (ARR)		Nylon polyamide (polyhexa- methylene adipamide)				(1)	9.0 11.0	Rib weave (4)	88 36	350 225	20 30		3% 2%	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-21108A Type I Type II			Thickness: Type II - 0.015 in. max.	Intended Use - For coating with a natural rubber compound for use in the manufacture of raft bottoms & associated items. Type I is used to make raft bottom cloth for one-man life rafts. Type II is used to make raft bottom cloth for multi-place life rafts.
MIL-C-21318A	Cloth shall be finished without the addition of materials that will increase the flammability of the cloth.	Color - to match TCA Cable No. 70072 (crepe side), Indian Orange, or TCA Cable No. 70153 (crepe side), Steel Grey (1). Cloth shall be dyed with acetate or acid dyes. Met- allized or chrome dyes shall not be used. Yarn or piece dyeing is acceptable. Colorfastness - "good" (5614-5660).	Thickness: 0.036 in. min. Flame resistance: Ave. length of char- 5.5 in. max. in the warp (5902).	Intended Use - In the fabri- cation of aircraft upholstery.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max. (5556)	Perf Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
<u>Cloth, Nylon, Plain</u> <u>Weave, 1.2 Ounces</u> <u>MIL-C-21842 (AM)</u> And. 1		W F	W F	W F	Min Max		Plain 1/1	W F	W F	W F		W F		
	High tenacity nylon		40 70	13 34	(1)	1.1 1.3		117 52	(5104) 50 50			2% 1 1/2%		
<u>Cloth, Modacrylic,</u> <u>Foplis</u> <u>MIL-C-21841 (SMA)</u>	(a) Copolymer 2 2 of acrylo- nitrile & vinyl chloride				(5) 38 min.	6.0±0.5	Plain	85 48	185 85		20	2% 2%		
<u>Cloth, Plain Weave,</u> <u>Polyester and Rayon</u> <u>MIL-C-21844A (SMA)</u>	55(±3)% polyester 45(±3)% rayon	1 1			(9) 60	4.2 4.9	Plain	70 56	90 70		135	2 1/2% 2 1/2%	30.00	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-21482	(8) Natural finish; not calendered. Copper content: 0.005% max. Manganese content: 0.001% max. pH: 6.0 - 10.0 (2811).	Color - Unless otherwise specified, color shall be natural.	Selvages shall be 1/4" max.	Intended Use - As a base cloth for coated cloth tape to be used in the repair & construc- tion of airship envelopes.
MIL-C-21841	Boiled off & finished to produce a cloth of maximum tightness. Heat stabilized to provide min- imum shrinkage in laundering & tumbler drying. Treated with an organic resinous durable water repellent compound. Spray rating: Initial- 100; After 4 accelerated laundering- 70 (5526).	Color - natural.	Selvages shall be 1/4 in. (+1/16) on each side. (a) Material shall be 40 (±2)% acrylic & 60 (±2)% vinyl chloride. The filling shall be spun from high shrink staple. Flex stiffness: 8.0 in. lb. x 10 ⁻⁴ max. in both warp & filling. (11)	Intended Use - In the fabri- cation of permeable peroxide fuel handlers clothing.
MIL-C-21844A	(8)	Color - shall be Blue 3330- std. sample available (3). Polyester component may be dyed using disperse, disperse- developed or azo dyes. Rayon compon- ent may be pigmented prior to spinning or may be dyed. (6) Colorfastness - standard sample available (5614- 5680-5651).	(11)	Intended Use - In submarine coveralls worn by male Navy personnel.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Perme- ability	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Cloth, Nylon, Taffeta (2.0 Ounce)			W F	W F	W F	Min Max			W F	W F	W F		W F	
MIL-C-21852 (S&A)	244°C. min.	semi- dull Nylon		70 70	Contin- uous	(1)	2.0 2.3	Taffeta (plain)	106 92	110 95	1650 1350 grams		2% 2%	
Cloth, Bunting, Acrylic		(a) semi- dull acrylic	2 2	3 3		(1)	4.9 -	Plain	30 30	95 100		250	4% 3%	35.00
MIL-C-22775A														

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-21852	(8) Natural finish; not calendered. Copper content: 0.001% max. Man- ganese content: 0.005% max. Heat set at 400°F min. No appreciable change in color, distortion, or puckering; 2% max. dimensional change in either warp or filling (4.4.3).	Color - Green 3406 - stan- dard sample available (3). Colorfastness - standard sample available (5614- 5651-5680-5620-5660).	(11) Flex stiffness: 1.5 in. lb. x 10 ⁻⁴ in the warp; 0.5 in. lb. x 10 ⁻⁴ in the filling.	Intended Use - With or without coating, for special purpose clothing worn by Navy personnel.
MIL-C-22775A	(8-10) Natural finish, equal to the standard sample.	Color (i) - to match std. shades (3). Colorfastness - standard sample available (5651- 5610-5670-AATCC/106-1962).	(11) (a) 2 in. min. staple length. Selvage shall be 1/4 (±1/16) in. Fiber shall be capable of being dyed with basic dyestuffs.	Intended Use - Primarily in the manufacture of signal flags.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per in. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Perme- ability	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Cloth, Synthetic, Widely Heat Resistant All C-3000 (Warp)			W F	W F	W F	Min Max			W F	W F	W F		W F	

Cloth, Synthetic,
Warp, Melt Resistant
MIL-C-23882 (USAF)
Amd. 1

Type I- 3.0 oz.		High strength aromatic polyamide melt-resistant	100	100	50	50	(1)	3.0	-	$\frac{2}{2}$ right twill	108	106	(5104)	130	110	12	12	20-40	2%	2%	(5532)
Type II- 4.0 oz.			200	200	100	100	(1)	4.0	-		74	72		170	150	24	24	40-60	2%	2%	

Cloth, Nylon, Mar-
quette, Parachute
MIL-C-26643 (USAF)

(a) 250°C ± 6°C	Poly- amide	70	70	34	34	(1)	-	0.9	4 end lano (4) repeating x 2 picks	52	34	(5104)	35	25	3	3	1600- 1750	1 1/4 1 1/4	
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Cloth, Parachute,
Nylon, Aromatic,
Nonmelting
MIL-C-38351 (USAF)

Type I																			
		(a)		Thickness (in. max.)															
Class 1- 4.7 oz.		Nonmelting aromatic polyamide	1	1	200	200	(1)	-	4.7	$\frac{2}{2}$ right twill	74	74	190	190	14	14	40-70	0.011	20.00
Class 2- 6.5 oz.			2	2	"	±15 ±15	(1)	-	6.5	(4)	53	48	265	265	20	20	50-80	0.022	20.00
Class 3- 12.0 oz.			5	5	"	"	(1)	-	12.0	(4)	38	38	425	425	75	75	40-80	0.032	20.00
Type II																			
Class 1- 7.0 oz.			2	2	"	"	(1)	-	7.0	Plain (1/1)	60	45	285	245	20	20	8 max.	0.015	20.00
Class 2- 18.0 oz. resin treated			5	5	"	"	(1)	-	18.0	3/4 basket	59	60	950	950				0.036	20.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
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MIL-C-23882 Type I Type II	(B) Cloth shall be given a scour sufficient to remove sizing & other contaminants without permanently setting the cloth. Cloth shall then be dried.	Color - Shall be orange or olive green (1). Color shall be obtained by the utilization of solution-dyed yarns. Colorfastness - "good" (5614).	Seam efficiency: 75% min. (5110). Stiffness: 0.010 lbs. max. in W & F (5202). Flame resistance: Flame time- 0 sec. max. Glow-time- 10 sec. max. Ave. length of char- 4 in. max. (5903). Melt drop- no melting. Resistance to abrasion: 11,000 cycles to failure, min. (5308).	Intended Use - In the fabrication of lightweight flight clothing.
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MIL-C-26643	Finished with a resin treatment to impart firmness. Permanent finish: air permeability shall not change more than 10%; thickness shall not change more than 10%. pH: 5.0 - 9.0 (2811).	Color - shall be natural.	(a)Yarn shall be prepared from hexamethylene diamine and adipic acid or its derivatives. Thickness: 0.0062 in. max.	Intended Use - In the vanes & cones of pilot parachutes. Also intended for future application in canopy inversion barrier.
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MIL-C-38351 Type I Class 1 Class 2 Class 3 Type II Class 1 Class 2	Type II, Class 2: Cloth shall be impregnated with resin, so that the finished cloth shall have a stiffness of 0.45-0.65 in. lb. in the warp & of 0.65-0.85 in. lb. in the filling (5202). pH: 5.0 - 9.0 (2811).	Color - shall be natural.	(a)Yarn shall not carbonize at a temperature below 800°F (4.4.3). Ultimate elongation: Type I, Class 1- 30% min.; Class 2- 25% min.; Class 3- 15% min.; Type II, Class 1- 40% min. in the warp & 30% min. in the filling (5104).	Intended Use - In the manufacture of parachute canopies, packs, and pack stiffeners.
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SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max. (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Cloth, Acrylic-Rayon (For Cartridge Bags Mil-C-40070 (OR)			W F	W F	W F	Min	Max		W F	W F	W F		W F	

Cloth, Acrylic-Rayon
(For Cartridge Bags)
MIL-C-40070 (ORP)

Class 1- Breaking
Strength: 60 lb.

(a)
Acrylic-
viscose
rayon

(1) 4.75 5.25 Plain-
single (1
end/dent)

Class 2- Breaking
Strength: 80 lb.

(1) 5.75 6.25 2/1
twill

Class 3- Breaking
Strength: 125 lb.

(1) 8.75 9.25 2/1
twill

Class 4- Breaking
Strength: 170 lb.

(1) 11.0 11.5 2/2
basket

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-40070 Class 1 Class 2 Class 3 Class 4	(8) Cloth shall be finished with a starch size. Finished cloth shall not contain more than 10% starch (4.3.2.1.2). Acidity: 0.1% max. Alkalinity: 0.1% max. (4.3.2.4). Cloth shall contain no halogens (4.3.2.5). pH: 5.0 - 9.0 (4.3.2.2).		(11) (a) Acrylic fiber content shall be 50-60% (4.3.2.1.3). Slippage value: all classes- 60 min. (5100). Stretch: all classes- 10% max. (5100).	Intended Use - In the manu- facture of cartridge bags for artillery ammunition. Cloth is not for use with propellants containing nitroguanidines.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width inch	Weight Oz/ Sq Yd	Weave	Yarns Per in. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Perme- ability	Shrink- age Max.	Point Value Max.	
	Fiber		Ply	Yarns											
	Matting Point	Type		Denier	Fila- ment										
			W F	W F	W F	Min Max			W F	W F	W F		W F		
Cloth, Cebardine, Polyester and Rayon MIL-C-41820B															
Type I- 6.0 oz. (bleached white)		(a) Polyeth- ylene	2	2		(1) 6.0 -	$\frac{2}{1}$		110	52	210	90		2½% 1½%	40.00
Type II- 6.4 oz. (Dyed)		glycol tereph- thalate	2	2		(1) 6.4 -	right twill		110	61	210	105		2½% 1½%	35.00
Type III- 8.0 oz. (Bleached white or dyed)		& rayon staple	2	2		(1) 8.0 -			92	42	280	120		2½% 1½%	white- 40.00 dye- 35.00
Class 1- Bleached white Class 2- Dyed															

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specificati Requirements)
MIL-C-41820B Type I Type II Type III Class 1 Class 2	(8) Types I & III cloth shall be scour- ed, heat set & bleached or dyed, to provide a finish equal to that of the standard sample. Type II, Class 2 shall be scoured, heat set, dyed & resin treated at a time & temperature that will insure adequate curing of the resin. pH: 6.0 - 8.0 (2811).	Color - Types I & III, Class 1 cloth shall be bleached white - std. sample available. Color shall be obtained with a chemical bleach, prefer- ably hydrogen peroxide or peroxygen chemicals. Chemical bleach may be supplemented with a fluo- violet fluorescing brie- ghtener. Types II & III, Class 2 cloth shall be dyed - std. sample avail- able (3). Rayon component may be pigmented prior to spinning or may be dyed using fast organic dyes (6). Colorfastness - standard sample available. Type I & Type III, Class 1, no discoloration in light (4.4). Type II and Type III, Class 2 (5660- 5614-5680-5651).	(a) Use of optically brie- tened polyester fiber is permitted for Type I & Type III, Class 1. Unless otherwise specified, the use of optically brie- tened fiber for Type II & Type III, Class 2 is pro- hibited. Polyester fiber content: 65-75%. Seam efficiency: 85% min. (5110).	Intended Use - In the manufac- ture of clothing items.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per in. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Perme- ability (5450)	Shrink- age Max. (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Cloth, Plain Weave, Nylon; Water Repel- lent OG-106 MIL-C-43128A			W F	W F	W F	Min Max			W F	W F	W F		W F	
		Bright high tenacity nylon		210 ±5% 210 ±5%	Multi- fil- ment	(1)	3.8 4.8	Plain	80 56	275 225		2.0	3% 2%	40.00

Cloth, Spacer
(Treated)
MIL-C-43204

Polyethylene	Diameter 0.010 ± 0.001	(9) 60 min.	9.5 11.5	(4)	20 (W 1) 19 (W 2)	110 200
Polypropylene	0.010 ± 0.001				27 (W 3) 70 (F)	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-43128A	(8) Scoured, heat treated & calendered. Water repellent treatment of aluminum salts of saturated carboxylic acid (such as formate, acetate, palmitate, or stearate), zirconium salts of such saturated carboxylic acids, or a combination of both, mixed with refined vegetable and mineral waxes, titanate esters, or a combination of both. The product shall be applied either in the form of an aqueous emulsion or in the form of a water free solvent solution to effect the deposit of not more than 6% on the weight of the finished cloth. Spray rating: 90, 90, 80 (5526). pH: 5.5 - 8.5 (2811).	Color - of the dyed & finished cloth shall be OG-106 and shall match the standard sample (3). Colorfastness - standard sample available (5671-5613).	(11) Stiffness: 0.005 lb. max. in the warp; 0.004 lb. max. in the filling (5202). Seam efficiency: 85% min. (5110).	Intended Use - In the rucksack (Lightweight), the jungle hammock and the carrying case for the collapsible canteen.
MIL-C-43204	(8)	Color - (1).	(11-12). Thickness: Initial 0.2 min., Compressed, 0.075 min., After Comp, 0.18 min. Dimensional stability. Change Max. W- 4%, F- 2%.	Intended Use- Spacer fabric in equipage items.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permea- bility	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
			W F	W F	W F	Min Max			W F	W F	W F		W F	
Cloth, Cartridge, Polyester-Viscose Rayon (For Cartridge Bags)			W F	W F	W F	Min Max			W F	W F	W F		W F	

Class 1 - Breaking Strength: 90 lb.	Polyester- viscose rayon (Polyethylene- terephthalate & viscose rayon blend)	(1)	4.75	5.25	Plain- single	35	35	90	90
Class 2 - Breaking Strength: 125 lb.		(1)	5.75	6.25	twill 2/1	35	35	125	125
Class 3 - Breaking Strength: 175 lb.		(1)	8.75	9.25	twill 2/1	45	45	175	175
Class 4 - Breaking Strength: 200 lb.		(1)	10.75	11.25	basket 2/2	50	50	200	200

Cloth, Spun Viscose Rayon, Resin Impregnated MIL-C-43157 (M)

Class 1 - Lighter wgt.	Viscose rayon, spun	(1)	2.80	3.20	Plain	48	48	35	35
Class 2 - Heavier wgt.		(1)	6.75	7.25	Single	35	35	85	85
Class 3 - Scarlet colored		(1)	6.75	7.25	(1 end in dent)	35	35	85	85

Cloth, Plain Weave, Acrylic MIL-C-43234 (OL)

Acrylic, 1	1	3 denier per filament	(1)	4.8	-	Plain	40	34	75	55	(5552) 4 1/2 3 1/2	35.00
crimped												
cut staple												

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-43153 Class 1 Class 2 Class 3 Class 4	(8) Acidity: 0.1% max. Alkalinity: 0.1% max. (4.3.5). pH: 5.0 - 9.0 (4.3.3).	Color (1).	Slippage value: All classes - 60 min. (4.3.10). Stretch: All classes - 10% max. (4.3.11).	Intended Use - In the manufac- ture of cartridge bags for artillery ammunition.
MIL-C-43157 Class 1 Class 2 Class 3	Cloth shall be finished with a urea formaldehyde resin (past type) plus a durable water repel- lent (melamine resin base). Loss of breaking strength of the impregnated cloth conditioned in dinitrogen tetroxide shall be 10% max. Spray rating: 70 (5526). pH: 5.5 - 7.5 (2811).	Color - Class 1 or 2: color shall be natural unless otherwise spec- ified. When color is specified, dye or tint shall be fugitive. Class 3: color shall be scarlet.	Slippage: min. value of 60 (4.3.4). Stretch: 10% max. (4.3.5).	Intended Use - In the manufac- ture of cartridge bags for artillery propelling charges.
MIL-C-43234	Lightly napped on one side. Degree of character and finish of the cloth shall be equal to the standard sample.	Color - Shall be Olive Green 106 (3). Colorfastness - standard sample available (5610- 5651-5680).		Intended Use - As a component of an insulating cap.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per in. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permes- bility (5450)	Shrink- age Max. (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
<u>Cloth, Pile, Acrylic, Fiber Pile</u>			W F	W F	W F	Min Max			W F	W F	W F		W F	
MIL-C-43251	Pile-			3		(1)	11.5 13.5		10 vales					

Cloth, Pile, Acrylic,
Fiber Pile
MIL-C-43251

Pile-
acrylic
staple.
Backing-
blend of
cellulose
acetate &
triacetate
staples

W F

W F

W F

(1) 11.5 13.5

10 wales
20 courses

Cloth, Plain Weave,
Nylon-Cloth, Plain
Weave, Polyester
MIL-C-43286

Type I - Polyester
4.0 oz.

Bright, 2
high
tenacity
polyester

2 220 220
or the
equiv-
alent

Multi-
fila-
ment

(1) 4.0 -

Plain
1 up
1 down

32 32 200 200

25.00

Type II - Nylon
5.0 oz.

Bright
high
tenacity
nylon

840 840

Multi-
fila-
ment

(1) 5.0 -

"

22 22 275 275

25.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-43251	Open and sheared. Pile height 13/32 in. ± 1/32 in. pH: 5.5 - 8.0	Color - Green 252 (3). Colorfastness - Standard sample. If none avail- able follow 5614.	(11) Triacetate 45% min.	Intended Use - Lining components in canteen cover. Acrylic type resin used for bonding or anti- curl agent permitted.
MIL-C-43286 Type I Type II	(8) Scoured and heat treated. Finished cloth shall show no appreciable distortion or puckering, and no dimensional change greater than 3% in the warp, 3% in the dia- gonal direction, and 2% in the filling. pH: 5.0 - 8.5 (2811).			Intended Use - As base materials for coated cloths to be utilized in the manufacture of air supported shelters.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb	Air Permea- bility	Shrink- age Max.	Point Value Max.
	Fiber		Ply	Yarns										
	Matting Point	Type		Denier	Fila- ment									
			W F	W F	W F		Min Max		W F	W F	W F		W F	
<u>Cloth, Plain Weave,</u> <u>Polyester, Low Air</u> <u>Permeability</u> MIL-C-43347A							(5) 41 8.5 -	Plain (or 2 ends weaving as 1)	64 43 (or 128 for the warp in the alter- nate weave)	475 540	25 30	2.0 (at 6" of water)		30.00
<u>Cloth, Duck,</u> <u>Nylon 13-Ounce</u> MIL-C-43375A (GL)		(a)	3-ply	840 420	Multi- fila- ment	(1)	12.5 -	Plain 1 up 1 down	56 28	800 700		3.0		35.00
			Bright or single high equivalent tenacity nylon											
<u>Cloth, Flannel,</u> <u>Acrylic, Rayon</u> <u>and Acetate</u> MIL-C-43462 (GL)			Blend of semi- dull acrylic, dull rayon and dull acetate staples.	single 3			min. 4.5 - 1.4 (9)	2 up 2 down right twill	66 54	70 50			min. 3.5 2.5	25.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc)	NOTES (Not Specification Requirements)
MIL-C-43347A	(8) Cloth shall be scoured, high temp- erature heat set, calendered, and water repellent treated with a silicone emulsion, to result in a finish equal in character to the standard sample. Spray rating: 90, 90, 90 (5526).	Color - Color shall be natural.	(11)	Intended Use - In the manufac- ture of air supported tents.
MIL-C-43375A	Scoured, dyed, and heat set. pH: 5.0 - 8.5 (2811).	Color (1) - Standard sample available (3). Colorfastness - standard sample available (5614- 5660).	(a) Yarn shall be a poly- amide prepared from hexa- methylenediamine and adipic acid or its derivatives.	Intended Use - In collapsible canteen covers.
MIL-C-43462	(8) Cloth shall be scoured.	Color (1) - Standard sample (3). Colorfastness - Standard samples available. If no standard sample, follow (5660-5614-5680- 5556).	Resultant blend min. 50% acrylic fiber. Fabric character must match standard sample. Seam efficiency 90% min.	Intended Use - Manufacture of scarves for female personnel.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per in. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Permea- bility (5450)	Shrink- age Max. (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
Cloth, Silica, Phenolic Impregnated Mil-C-81251 (JP)			W F	W F	W F	Min Max		W F	W F	W F		W F		
Silica cloth conforming to GS 9349, Type II, except that it shall contain a min. of														

Cloth, Silica,
Phenolic Impregnated
MIL-C-81251 (WP)

Silica cloth conforming to GS 9349, Type II, except that it shall contain a min. of 96% silica, and a phenolic resin conforming to MIL-R-9299, Type II, Class 2.

Cloth, Nylon
MIL-C-81268 (WP)

Poly-
vinyl
Chloride

210 210

1.55 2.00 Plain 22-24 65 65

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
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MIL-C-81251

Uncured resin-impregnated cloth shall contain 28 ± 3% resin solids by weight. Uncured resin-impregnated cloth shall contain 4-7% volatile matter by weight. Uncured resin-impregnated cloth shall have a resin flow of 15-21%.

(11)
Cured cloth shall have a min. ave. flexural strength of 19000 psi at 75±5°F. No individual value shall be below 18000 psi (method 1031 of Std. 406). Cured cloth shall have a min. ave. tensile strength of 12000 psi at 75±5°F. No individual value shall fall below 11000 psi (method 1011 of Std. 406). Cured cloth shall have a min. specific gravity of 1.67 (method 5011 of Std. 406).

Intended Use - In rocket motors.

MIL-C-81268 (WP)

(11)
Elongation: 35% max.
Thickness: 0.006-0.009 in.

Intended Use - As a wrapper for the external surface of propellant grain in rocket motors.

SYNTHETIC OR MIXED SYNTHETIC CLOTHS-WOVEN

NOMENCLATURE	YARN					Width Inch	Weight Oz/ Sq Yd	Weave	Yarn Per in. Min. (5050)	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb (5134)	Air Perme- ability (5450)	Shrink- age Max. (5556)	Point Value Max.
	Fiber		Ply	Yarns										
	Melting Point	Type		Denier	Fila- ment									
<u>Cloth, Herringbone</u> <u>Twill, Polyamide,</u> <u>High Temperature</u> <u>Resistant</u> MIL-C-81280A (WP)			W F	W F	W F		Min Max		W F	W F	W F		W F	
							(5)			(5104)				(5552)
Type I- 3.3 oz.		High temperature aromatic polyamide melt-resistant					45 3.3 3.8	Broken herring- bone twill (4)	107 75	90 60	6 5	200	2% 1 1/2%	
Type II- 5.0 oz.							45 5.0 5.5		94 76	130 100	16 10	100	2% 2%	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, etc.)	NOTES (Not Specification Requirements)
MIL-C-81280A (WP) (8) Type I Type II	Cloth shall be desized and scoured, without permanently setting the cloth, and an anti-static finish added. Cloth shall be heat-set at 500°F. for 15 sec. (min.) and shall be well singed on both sides. Flame resistance: Flaming time- both types: 2 sec. max. Glow time- both types: 25 sec. max. Average length of char- Type I; 3.5 in. max.; Type II: 2.5 in. max. (5903T).	Color - Cloth shall be Green to match Navy Shade No. 3433. Color shall be obtained by the use of solution-dyed fibers.	Seam efficiency: 80% min. (5110).	Intended Use - In the fabri- cation of lightweight flight clothing.

REFERENCES

SYNTHETIC OR MIXED SYNTHETIC CLOTHS - WOVEN

Textile Test Methods - CEC-T-191b

<u>Method</u>	<u>Title</u>
<u>Chemical</u>	
2611	Nonfibrous materials, enzyme method.
2810	Acidity (pH), colorimetric method.
2811	Acidity (pH), potentiometric method.
<u>Construction</u>	
5020	Width of cloth.
5050	Yarns per inch in woven cloth.
5030	Thickness of cloth.
<u>Mechanical</u>	
5100	Strength and elongation, breaking, of woven cloth, grab method.
5104	Strength and elongation, breaking, of woven cloth, ravel strip method.
5110	Sevability; strength-of-seam method.
5120	Bursting strength, ball method.
5122	Bursting strength, diaphragm.
5134	Tearing strength, tongue method.
5136	Tearing strength, trapezoid method.
5202	Stiffness, directional, cantilever bending method (Tinius Olsen).
5308	Abrasion Resistance of Cloth; Uniform Abrasion (Schiefer) method.
5410	Slippage resistance of yarns in cloth.
<u>Air Permeability and Water Resistance</u>	
5450	Air permeability, calibrated orifice method (Frazier).
5514	Water resistance, hydrostatic pressure, low range.
5526	Water resistance, with hydrophobic finish, spray method.
<u>Shrinkage Resistance</u>	
5550	Shrinkage in laundering; cotton, linen, and mixed cotton and linen cloth.
5552	Shrinkage in laundering; cloth other than cotton and linen.
5555	Shrinkage in laundering; mobile laundry method.
<u>Colorfastness</u>	
5614	Laundering of wool, silk, rayon cloth; Launder-Ometer.
5620	Dry cleaning (petroleum solvent).
5622	Wet cleaning (with dry cleaning).
5630	Water, cold.
5632	Salt water and soap.
5651	Crocking of cloth.
5660	Light; accelerated (Fade-Ometer).
5670	Weather; accelerated method (Twin Arc Weather-Ometer).
5671	Weather; accelerated method (National Weathering Unit).
5680	Perspiration; perspirometer method.
5682	Perspiration; tube method.
<u>Deterioration Tests</u>	
5850	Aging; accelerated oven method.
5852	Aging; accelerated oxygen method.
5872	Temperature, high; blocking.
<u>Fire-Resistance Thermal Tests</u>	
5902	Flame resistance; vertical.
5903	Flame resistance of cloth; modified vertical.
5910	Burning rate of cloth; 30° angle.

GENERAL NOTES

MIXED FIBER CLOTHS - WOVEN

The following parenthetical numbers are utilized throughout this section of the text as referenced notes. Upon observing these numbers, refer to this page for further information dealing with specific portions of the item.

- | | |
|--|--|
| (1) As specified. | (6) Markings, insignia, etc. |
| (2) Reprocessed, reused, noils, roving, etc. | (7) Preproduction sample. |
| (3) Colormatching. | (8) Sulfur dyes. |
| (4) Nonfibrous, etc., restrictions. | (9) Width exclusive of selvage. |
| (5) Weave instructions or pattern. | (10) Bid sample and laboratory report. |
| | (11) Width inclusive of selvage. |

The specific test methods referenced in this section of the text are listed with their titles at the end of the section.

MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Faint Value Max.
			Grass- USDA	System	Denier	Filament									
Bedsread, Cotton or Cotton/Rayon Blend DD-B-151e (See also under Cotton Cloths)		W F			W F	W F	Min/Max			W F	W F	W F		W F	

Type I- Crinkle Cotton or blend of 1 1 See under Cotton Cloths for all other requirements.
 Type II- Dimity 50(±5)% cotton & 1 1
 Type III- Herringbone stripe 50(±5)% high wet-strength modulus-type rayon (Type IV cords-all cotton) 1 1
 Type IV- Corded

Cloth, Interlining, Cotton Warp, and Spun Hair-Wool Filling MIL-C-297D

Type I- Med. vgt. Cotton warp, goat-hair & staple fleece or pulled wool (2) filling	1 1 or 2	Worsted	(1) 7.0 8.0	Plain	44 38 50 45	(5555) Freshrun 3% 1% 40.00
Type II- Rvy. vgt. goat-hair & staple fleece or pulled wool (2) filling	"	"	(1) 8.0 9.0	"	44 38 50 45	3% 1% 40.00
Type III- Lt. vgt. staple fleece or pulled wool (2) filling	"	"	(1) 5.0 6.0	"	44 40 50 38	3% 1% 40.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
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DD-B-151e see under Cotton Cloths for all requirements, notes, etc.
 Type I
 Type II
 Type III
 Type IV

MIL-C-297D (4)
 Type I
 Type II
 Type III

Color - Warp shall be unbleached natural. Filling shall be the natural color of the hair and wool.

Stiffness (measured parallel with the filling):
 Type I- 0.011 load lb. min.
 Type II- 0.016 "
 Type III- 0.005 " (5202).
 Animal fiber content: 50% min. (2100).

Intended Use - As an interlining in clothing items.

MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Wt/lb Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Filament				(5050)	(5100)	(5134)	(5450)	(5556)	
Blanket, Bed (Other than All Wool) DD-B-421e		W F			W F	W F		Min/Max	W F	W F	W F		W F		

Type I- All Cotton
(See Cotton Cloths)

Type II- Cotton
W, wool F

Class 1- Twill

(Double filling)

Size 1- 60x80 in. 20% cotton 44's

Size 2- 66x90 in. 80% wool min.

Size 3- 72x90 in. &/or repro-

Size 4- 66x84 in. reprocessed wool

(99% wool)

Type III- Blended

Nylon-wool- rayon-

cotton and other

fibers

Class 1- Twill

(Double filling)

Size 1- 60x80 in. 80% min. wool 44's

Size 2- 66x90 in. &/or reprocessed

Size 3- 72x90 in. wool, 10% min.

Size 4- 66x84 in. nylon, 10% max.

rayon, cotton &

other fibers

(50% of wool,

max., reprocessed)

(lb.)

(blanket)

3.3 3.45 (5)

4.1 4.3 (5)

4.4 4.6 (5)

3.8 4.0 (5)

52 40 38 36

52 40 38 36

52 40 38 36

52 40 38 35

(5552)

10% 10%

10% 10%

10% 10%

10% 10%

(lb.)

3.3 3.4 (5)

4.1 4.4 (5)

4.4 4.6 (5)

3.8 4.0 (5)

22 20 35 30

22 20 35 30

22 20 35 30

22 20 35 30

10% 10%

10% 10%

10% 10%

10% 10%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
DDD-B-421e Type I Type II Class 1 Size 1 Size 2 Size 3 Size 4 Type III Class 1 Size 1 Size 2 Size 3 Size 4	(4) All types - finished equal to the standard sample with respect to nap and hand. The napped fibers shall offer considerable resistance to lifting with a needle.	Color (1) - When white is specified, color shall be unbleached white consistent with the natural color of the specified fibers. Wool shall be selected to avoid the presence of black fibers. Black fiber content shall be no greater than that of the standard sample. Std. sample available for all other colors specified (3). Colorfastness - standard sample available (5651-5614). (6)		Intended Use - As bed coverings.

MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Stretch Max.	Pelt Value Max.
			Grade USDA	System	Denier	Filament									
Scarfs, Chaplains' MIL-S-422B		W F			W F	W F	Min/Max			W F	W F	W F		W F	
Type I- Scarf, Chaplain's, Christian Faith (Army)	(a) Bengaline: rayon warp; cotton filling	- 2				Multi-filament	7.0	Plain	140 25	100 100					
Type II- Scarf, Chaplain's, Jewish Faith (Army)		- 2					7.0	"	140 25	100 100					
Type II- Scarf, Chaplain's, Christian Faith (Air Force)		- 2					7.0	"	140 25	100 100					
Type IV- Scarf, Chaplain's, Jewish Faith (Air Force)		- 2					7.0	"	140 25	100 100					

Cloth, Nylon Bunting and Cloth, Nylon-and-Wool Bunting
 CCC-C-476d
 (See also under Synthetic Cloths)

Type I- 100% Nylon filament (See Synthetic Cloths)

Bright
 Type II- 75% Nylon staple (2) 2 44's Bradford French or American
 (staple) 25% Wool nylon & fleece &/or pulled wool (2)
 (1) 4.8 - Plain 32 30 115 100
 ± 2

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-422B Type I Type II Type III Type IV		Color - Type I: Black (Cable No. 65018); Type II: Bleached white; Types III & IV: Silver Grey (Cable No. 65008). Standard samples available for all shades (3-8). Colorfastness- standard sample available (5622-5680-5651-5660). (6)	(7) (a) Rayon shall be high luster, regenerated cellulose type, of the viscose or cuprammonium process.	Guide sample available.
CCC-C-476d Type I Type II	Crabbed, sheared on both sides, and given a commercial anti-static finish.	Color (1)- Colors specified for the American Flag shall be in accordance with requirements specified in DDD-F-416. Standard sample available for other colors specified (3). Colorfastness - standard sample available (5632-5630-5651-5660).	There shall be a plain woven selvage on each side, 1 in (1 1/8 in.) wide, with 2 ends weaving as 1.	Intended Use - Primarily in the manufacture of various types of flags.

MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz./ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Filament									
Cloth, Pile, Alpaca; and Cloth, Pile, Wool MIL-C-483B		W/F		W/F	W/F		Min/Max								
Type I- Cloth, wool, pile, double face, 5/16 in.	Ground or backing yarns (warp or filling); cotton. Pile Yarns: wool; 50's-56's; 2-ply; Bradford, French, or American System.						(9) 54 min.	15.0	Modified "W" weave (5)	38 19 32	65 50	5/16 (5/32 ea. face)			
Type II- Cloth, wool, pile, double face, 1/2 in.							"	20.5	"	38 19 36	60 70	1/2 (1/8 ea. face)		60	
Type VII- Cloth, alpaca, pile, single face, 1/2 in.	Ground or backing yarns: Same as for I and II. Pile yarns: alpaca; 56's min.; 2-ply; Bradford, French, or American System.						"	19.0	Fast pile (5)	54 18 46	60 90	1/2		55	
Type IX- Cloth, wool, pile, double face, 1/4 in.	Ground and filling yarns: Same as for I and II. Pile yarns: same as for I and II.						"	14.0	Modified "W" weave (5)	38 19 32	65 50	1/8 (1/8 each face)		60	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-483B Type I Type II Type VII Type IX	(4) Pile shall be tigered, so that pile tufts are open to within 1/8 in. of the ground cloth and in an upright position. Pile shall be vacuumed to remove loose fibers. Cloth shall show no more than a trace of loose fibers or compound when shaken vigorously over a smooth black surface. Cloth shall have a properly applied silico fluoride moth repellent treatment. Animal fiber shall have 0.4 - 0.7% fluorine (4.4.1). pH: 3.3 - 4.5 (2811).	Color - Type VII: natural. (7) Types I, II & IX: natural or dyed(1). Standard sample available for dyed (3). Color to be obtained by chrome or neutral premetallized dyestuffs by piece, stock, or yarn methods. Colorfastness - standard sample available (5651-5614-5622-5690).		Intended Use - As a protective lining for cold climate clothing, and to be used in the manufacture of winter flying clothing.

MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Filament				(5050)	(5100)	(5134)	(5450)	(5556)	
Towel or Dishcloth (Crash, Cotton, and Cotton and Linen-Mixed); Cloth, Crash, Cotton		W/F			W/F	W/F	Min/Max			W/F	W/F	W/F		W/F	
DDD-T-511c (See also under Cotton Cloths)															
Type I- Towel or dishcloth															
Class 1- Cotton warp and linen filling (unbleached)	Cotton & Linen						17	6.0 min.	Plain	28	22	45	35		40.00
Class 2- All Cotton (bleached) (See under Cotton Cloths)															
Type II- Cloth, crash, cotton (bleached) (See under Cotton Cloths)															

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
DDD-T-511c Type I Class 1 Class 2 Type II	(4) Type I, Class 1 towels shall be scoured and unbleached.	When specified, towels shall have woven, colored stripes, 3/16 - 5/16 in. wide, located 7/16 - 9/16 in. from each selvage edge. Colorfastness - stripes shall show "good" fastness (5600-5610).	The height of the rise of the colored water shall be a min. of 6 cm. in 5 min. in both warp and fill.	

MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Abr. Resistance	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Filament									
Cloth, Serge, Wool; Wool and Nylon		W/F			W/F	W/F		Min/Max		W/F	W/F	W/F		W/F	

MIL-C-823E, Am. 2
(See also under Wool Cloths)

Type I- Wool
(See Wool Cloths)

Type II- Wool 83% min. fleece &/or
and nylon pulled 2 1 60's Bradford
Class 1- 18 oz. wool & 15% 2 1 60's French or
Class 2- 16 oz. min. nylon American
top or cut
tow (2)
wool content
95% of wool
used.

(9)
60 18.0 - 4-harness 66 52 135 120
min. 16.0 - 2 right 70 54 120 110
(54" 2 twill
lin yd)

(5558)
4% 2% 10.00
4% 2% 10.00

Cloth, Fleece, Cotton

Warp and Wool-Nylon

Filling: Lining.

15-Oz. Shrink

Resistant

MIL-C-2069D (GL) Filling: 2 1 (a) Woolen
Fleece &/or
pulled wool
(80% min) &
staple nylon
(10-20%)(2)
Warp: cotton

(9)
56 15.0 16.5 2' right 36 36 40 30
min. (54" lin 2 twill
yd)

(5558)
5% 4% 15.00
(5554)
4% 3%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc)	NOTES (Not Specification Requirements)
MIL-C-823E Type I Type II Class 1 Class 2	Fulled and sheared and otherwise finished to give stability of color and finish. Type and character of finish shall conform to that of standard sample. Supplier shall obtain approval for finish prior to production. pH: 5.5 - 8.5 (2811).	Color - Color, types of colorants, and methods of coloring (1). Standard samples available (3). Speck dyeing prohibited. Army Green 44 to be produced by blending dyed wool top. Unless otherwise authorized, piece dyeing is prohibited. Colorfastness - standard sample available (5660-5622-5680-5651).	(7)(10).	Intended Use - In service, semi-dress, and dress uniforms and functional clothing used by the DOD.
MIL-C-2069D	Fulled and napped on face and back to equal standard sample. Napped fibers shall offer considerable resistance to lifting with a needle. Treated for resistance to felting shrinkage by an approved oxidation or resin process. When oxidation process for shrinkage resistance is used, alkali solubility of treated cloth shall not increase more than 5% (2800). pH: 4.0 - 8.0 (2811).	Color - Shall be Olive Green 104 - standard sample available (3-8). Colorfastness - standard sample available (5614-5680-5651).	(7) Wool blend. (a) 40% min. - 56's 40% max. - 50's 20% max. - 48's (reprocessed)	Intended Use - For the lining for the fur ruffed hood.

MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Filament									
										(5050)	(5100)	(5134)	(5450)	(5556)	
Cloth, Nylon and Cotton, Interwoven MIL-C-4487 (USAF)	Cotton & 2 bright high tenacity nylon	W/F			W/F	W/F		Min/Max		W/F	W/F (5104)	W/F		W/F	
					70 100	Continuous	(9) 40 min.	- 4.5	(5)	184 82 (nylon: 92, cotton: 92)	110 110	8 -	40-110	Preshrunk 4% 2% (5552)	

Cloth, Cotton Back Rayon Twill MIL-C-5645, Amd. 1

(a)										(5104)				Shrinkage	
Type I- High tenacity rayon warp	Cotton & bright viscose process rayon	2 or 3	Contin-uous	40 42	8.5	9.25	3 1 warp faced twill	240 62	185 90	6 5	17	5%	2%	3%	2%
Type II- Semi-high tenacity rayon warp	"	"	"	"	8.5	9.25	"	240 62	150 90	5 5	17	5%	2%	3%	2%
Type III- Regular rayon warp	"	"	"	"	8.5	9.25	"	240 62	130 90	4 1/2 5	17	5%	2%	3%	2%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-4487 (USAF)	Use of finishing or loading materials to increase weight or breaking strength is prohibited. Use of dyestuffs, detergents, or other chemicals or finishing agents which would cause deterioration in storage or dermatitis on skin contact is prohibited. pH: 4.0 - 8.0 (2811).	Color - Sage Green 518 unless otherwise specified (8). Colorfastness - "good" (5614-5651-5660-5682).		Intended Use - In the manufacture of special flying clothing.
MIL-C-5645 Type I Type II Type III	(4) Cloth shall be given a suitable, durable water repellent treatment. Spray rating: Initial- 80; After 3 launderings - 65; After 3 dry cleanings - 65 (5526). Hydrostatic water repellency: Initial - 25 cm.; After 3 launderings - 17 cm.; After 3 dry cleanings - 25 cm.	Color (1) - To be obtained with vat dyes. Colorfastness - "good" (5660-5682-5610-5632-5620-5651-5680-5682).	(a)Unless otherwise specified. Type II shall be furnished.	Intended Use - In the fabrication of flight garments.

MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Count	Filament									
Cloth, Taffeta, Nylon Face Wool Back and Cloth, Satin, Rayon Face Wool Back MIL-C-8797A (ASG)		W/F			W/F	W/F	Min/Max			W/F	W/F	W/F		W/F	

Type I- Nylon face	30% min. fleece or pulled wool (2) & bright polyamide of hexamethylene diamine & adipic acid or its derivatives. Melting point: 482°±10°F.	64's	Contin-uous	(1)	6.5±.5	Nylon face: special taf-feta weave with 2 fill-ings (5). Face: 100% nylon. Fill: wool, inserted so that face is not affected & back surface is all wool.	(a)	220	220	5	8				10.00
Type II- Rayon face	30% min. fleece or pulled wool (2) & bright viscose rayon of commercial quality.	64's	Contin-uous	(1)	9.1±1	(5) Face: rayon. Fill: wool, inserted so that face is not affected & back surface is all wool.	(a)	180	70	3	3				10.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-8797A (ASG) (4) Type I Type II	Cloth shall be uniformly napped on wool-backed side to provide a finish equal to the standard sample. Type I shall be given a water resistant treatment. Spray rating: 70, 70, 70 (5526). Rain penetration: 0.5 gms. (max.) (5522). pH: 4.5 - 9.0 (2811).	Color (1) - Standard samples available (3-8). Colorfastness - standard sample available (5630-5632-5622-5651-5660-5680).	(7) (a) Yarns/Inch: Type I- nylon warp: 168; Nylon fill: 64; Wool fill: 64. Type II- Rayon warp: 320; Rayon fill: 76; wool fill: 76. Sevrability: 70% min. (5110).	Intended Use - In the fabrication of flight clothing and uniform clothing. They are used in the clothing as outer surface, lining, and pocketing.

MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Filament				(5050)	(5100)	(5134)	(5450)	(5554)	
Cloth, Flannel, Wool and Nylon, 16-Oz. Shrink Resistant MIL-C-11065D (GL)	45% min. fleeces &/or pulled wool 10% min. staple nyl. 40% max. wool noils (2).	1 1	new: Woolen 62's noils 60's				(9) 56 min.	16.0 - 2 2		38 33	50 40			(5558) 5% 5% (5554) 5% 3% (Felting Shrinkage)	10.00

Scarf, Neckwear:

MIL-S-17868A (MC)	(a) wool: 64's Worsted Cotton & 2 fleece &/or cotton: pulled wool ?	5.0 - 2 2 right twill (3 cotton ends on each edge)	28 25 30 15	5% 5%
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NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-11065D	Cloth shall be fulled (wool stock carbonized if necessary), napped and cropped. Finished cloth shall have uniformly developed closely cropped finish, with the same degree of soft hand, drape, and character of finish on the face and back as the standard sample. Approved shrinkage control treatment for felting shrinkage, by an oxidation, resin, or by interfacial polymerization process. When resin or interfacial polymerization are used, stiffness shall be 0.011 lb. max. in the warp. When oxidation is used, alkali solubility shall not increase more than 6%. pH: 4.0 - 8.0 (2811).	Color - Shall be Olive Green 103 and shall be obtained by blending chrome or neutral premethylized dyed wool and nylon. Speck and piece dyeing are prohibited.(3) Colorfastness - standard sample available (5660-5622-5680-5614-5651).		Intended Use - As shirting material for male military personnel, as a component of the cold-wet and cold-dry uniform for temperate and cold areas.
MIL-S-17868A	Type and character of finish shall conform to the standard sample. pH: 4.0 - 8.0 (2310).	Color - Shall be red to match standard sample (3). Yarn shall be dyed. Colorfastness - "fair" (5614-5682-5622-5651-5660).	(a) Cotton yarn for deep edges shall have sufficient strength to maintain selvages in their proper alignment without fraying or slipping.	Intended Use - Scarf for use by female personnel of the U.S. Marine Corps. Guide sample available.

MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Filament									
Cloth, Tropical: Wool; Polyester/Wool MIL-C-21115E (OL) Amd. 1 (See also under Wool Cloths)		W/F			W/F	W/F	Min/Max			W/F	W/F	W/F		W/F	(5558)

Type I- Wool
(See Wool Cloths)

Type III- Polyester-
wool blend

(a)
55-60%
polyester
40% min.
fleece
&/or
pulled wool

2 2 64's Bradford 3 3
French or
American

(9)

60 9.0+0.5
min. (oz/54"
lin yd)

Plain 54 42 100 80

except
M-1 -
4% 3% 12.00
15.00
M-1

Cloth, Sateen, Cotton

Warp and Nylon Filling

MIL-C-21848A (8A) Warp:
cotton
Fill: dull
nylon. Min.
m.p.: 244°C

1 3

200 200 34 34 (1) 9.2 -

5-barness 85 54 140 300
satin (5)

(5550)
2% 2% 30.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
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MIL-C-21115E
Type I
Type II

Cloth shall be scoured, brushed, sheared, and singed, pressed and decatized to equal standard sample. Cloth shall show no more creping after shrinkage test than standard sample. Cloth shall show no more pilling than standard sample. pH: 5.5 - 8.5 (2811).

Color (1) - standard sample available. Color shall be obtained by blending top dyed wool with stock, top or towed dyed polyester, with wool and polyester fibers dyed separately, then blended. Pigmented fibers may be used instead of dyed as long as color is equal to that of standard sample. Monotone shade shall present a solid appearance with no more heatheriness than standard sample. (3) Colorfastness - standard sample available (5622-5651-5660-5680).

(a) Polyester shall be semi-dull, made from polyethylene glycol terephthalate, either homopolymer or modified polymer as appropriate. Min. avg. fiber length: 3 in.

Intended Use - In the manufacture of shirts, coats, and trousers for officers and enlisted personnel.

MIL-C-21848A

(4)

Color - Shall match (7)
Green 3423 (5) - standard sample available (8).
Colorfastness - standard sample available (5651-5660-5610-5680).

Intended Use - In clothing items for use by Navy personnel.

MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Filament									
Cloth, Polyester and Cotton Twill MIL-C-21851 (8A)	65(±2)% polyester, 35(±2)% cotton.	1 1					(9) 45 min.	5.2 -	2 right 1 twill	127 58	190 70		35	2%	30.00

Cloth, Broadcloth, Polyester and Cotton;
Cloth, Poplin, Polyester and Cotton
MIL-C-21851B (8A)

Type I- Broadcloth															
Class 1- Khaki	65(±2)% polyester	1 1			1.5	(9)	42 min.	3.2 3.7	Plain	120 70	80 36			1%	30.00
Class 2- White	35(±2)% cotton	1 1			3.0	(sel- vage: 1 in. max.)	4.2 4.7	"	"	120 70	80 36			1%	30.00
Type II- Poplin															
Class 1- Khaki		1 1			"		4.2 4.7	"	"	100 40	100 40			1%	30.00
Class 2- White		1 1			"		4.2 4.7	"	"	100 40	100 40			1%	30.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-21851	(4)	Color - Cloth shall be dyed to match Blue 3329 (3-8). Standard sample. Colorfastness - standard sample available (5610-5680-5651).	(7) Original stiffness shall not be more than 3.0 x 10 ⁻⁴ in-lb. (geometric means) and shall not be less than 0.9 x 10 ⁻⁴ in-lb. after 1 laundering.	Intended Use - In the manufacture of submarine overalls worn by male Navy personnel.
MIL-C-21851B	(4)	Color (1-8-3). When Khaki 3714 or 3715 is specified, cotton fibers shall be vat dyed and polyester fibers shall be dyed with suitable fast dye. When White 3024 or 3013 is specified, cloth shall be bleached and tinted with Vat Blue 6, C.I. No. 69825/6 to match standard sample. Colorfastness - standard sample available for dyed cloth (5660-5610-5680-5600-5651).	(7) Seam efficiency: 80% min. (5110).	Intended Use - For use in shirts and boxer style drawers worn by Navy personnel.

MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength	Tearing Strength	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Filament					(5050)	(5100)	(5134)	(5450)	(5550)
Cloth, Satin, Rayon Warp and Cotton Filling MIL-C-21883A (SA)	Cotton & bright viscose rayon	- 1			300 -	Con- tin- uous	(9) 41 min.	7.9 8.5	5-harness satin (5)	144 56	275 70			8% 3%	30.00
Cloth, Polyester Fiber, Cotton MIL-C-22148 (MC)	(a) 35(±2)% cotton 65(±2)% semi-dull polyester	1 1			3 3		(1)	2.9	Plain	92 80	45 40			(5552) Freshrun 1% 1%	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-21883A	(4) Cloth shall have a natural finish. It shall be desized and finished with minimal warpwise tension. Use of finishing or loading materials to increase weight or breaking strength is prohibited.	Color (1) - To match specified Navy Shades (3). Cotton yarn shall be unbleached and undyed. Rayon warp yarn shall be "solution dyed" with coloring pigments introduced into the viscose solution before yarn is spun. White yarn shall be bright, unpigmented. Colorfastness - standard sample available (5610-5660).	(7) Selvage shall be 3/8 (±1/16) in. wide and may be made from white or colored yarn.	Intended Use - In the manufacture of identification garments worn by aircraft carrier flight deck personnel.
MIL-C-22148	(4) Cloth shall not show pilling tendencies to exceed 1 pill/sq.in. Cloth shall be heat set to show no distortion and remain dimensionally stable when pressed with a flat iron at 300°(±15°)F.	Color - Shall be White M410 or Green M230 (1) and shall match approved shade sample (3). Colorfastness - "good" (5600-5651-5622-5614-5660-5682).	(7) (a) Polyester fiber shall be polyethylene glycol terephthalate, with a staple length of 1½ in. min.	Intended Use - In the manufacture of shirtwaists worn by female personnel of the Marine Corps.

MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength	Tearing Strength	Air Permeability	Shrinkage	Point Value
			Grade USDA	System	Denier	Filament					(5050)	(5100)	(5134)	(5450)	(5556)
Cloth, Cotton and Polyester Fiber, For Summer Uniforms MIL-C-27353 (USAF) And. 1		W/F			W/F	W/F	Min/Max			W/F	W/F	W/F		W/F	

Type I- Plain weave	(a) 50-55% polyester & 45-50% cotton	1 1			3 3		(1) 4.3 4.7	Plain (1/1)	64 49 60 50	8 5 1/2	100	1 1/2	1 1/2	30.00
Type II- Twill weave		1 1			3 3		(1) 6.3 6.7	2 right 1 twill	100 55 105 65	8 7	30	1 1/2	1 1/2	30.00

Cloth, Broadcloth (End-and-End)

Polyester and Cotton MIL-C-38419 (USAF)	(a) 65% min. polyester & cotton 30% min.	1 1			1.5 1.5		(1) 3.2 3.7	(b) Plain	100 64 70 52				(5552) 1 1/2 1 1/2	25.00
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NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-27353 Type I Type II	(4) Before dyeing, cloth shall be de-sized, scoured, and mercerized to give a lustrous finish. Type I cloth shall be brushed (not napped) to raise surface fibers on both sides, heat set and singed. Type II cloth shall have warp twill face brushed (not napped), then singed, and filling face heat set, then singed without brushing.	Color - Shall be USAF 1505 tan shade (r other colors as specified. Standard samples available (3). Cloth shall be piece dyed. Vat dyes shall be used for cotton fibers and suitable, compatible dye-stuffs for the polyester (8). Fiber shade differences shall not be evident in the blend. Colorfastness - "good" (5660-5610-5600-5622-5651)	(7) (a) Polyester shall be of terephthalic acid and ethylene glycol, 1 1/4 in. staple length, with a min. fiber tenacity of 3.5 grams per denier (at 60% elongation/min.) and a min. melting point of 232°C. Sewability: "good". Seam efficiency: 90% (5110).	Intended Use - In the fabrication of summer uniforms.
MIL-C-38419	(4) Cloth shall be scoured, singed, stabilized and mercerized for a smooth, lustrous finish equal to that of the standard sample.	Color - Cloth shall match approved standard shade USAF Blue 1550 (3-8). Colorfastness - standard sample available (5660-5680-5651-AATCC, Type IV).	(7) (a) Polyester fiber shall be polyethylene glycol terephthalate. (b) Cloth shall be in an end-and-end construction, with alternating warp ends in blue and white. Blue ends shall be solid color and white ends and all picks shall be clean white. Bleached to attain min. Munsell neutral color rating of 8.5 (AATCC). Seam efficiency: 90% (5110).	Intended Use - In the manufacture of shirts and shirtwaists worn by Air Force personnel.

MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength	Tearing Strength	Air Permeability	Shrinkage	Point Value
			Grade USDA	System	Denier	Filament					(5050)	(5100)	(5134)	(5450)	(5556)
Cloth, Corded Polyester-Cotton Warp and Polyester Filling	(a)														
MIL-C-40052C	Cotton & semi-dull polyester	1 1 3 2			75% 150 Multi-3 or file-25% 70 ment 1.5(-4%)	(11)	45 min.	4.3 -	Plain (warp stripe: 2 ends cotton, 1 end spun polyester)	56 28 64	500 300			(5552) 2% 2%	25.00
Cloth, Duck; Cotton and Nylon															
MIL-C-41836A (OL) Amd. 1	45-50% Cotton & 55% max. semi-dull nylon	3 3						(1) 14.5 -	Plain	46 26	425 300		3.0		35.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc)	NOTES (Not Specification Requirements)
MIL-C-40052C	(4)	Color (1) - standard sample available (3). Color of ground warp shall be obtained by yarn or piece dyeing. Polyester shall be natural color (8). Colorfastness - standard sample available (5614-5651-5660-5680).	(a) Polyester shall be polyethylene glycol terephthalate. Warp yarn shall have a min. staple length of 1 1/2 in.	Intended Use - In women's summer uniforms.
MIL-C-41836A	Cloth shall be mildew resistant treated with copper 8-quinolinolate, so that treated cloth contains 0.04-0.15% copper as metal from 8-quinolinolate (2050 or 2051).	Color (1) - standard sample available (3). Use of disperse dyes on the nylon is prohibited (8). Colorfastness - standard sample available (5671).	(7)	Intended Use - In the manufacture of tropical combat boots.

MIXED FIBER CLOTHS-WOVEN

NOMENCLATURE	Fiber Content	Ply	Woolen Yarns		Synthetic Yarns		Width Inch	Weight Oz/ Sq Yd	Weave	Yarns Per In. Min.	Breaking Strength Lb. Min.	Tearing Strength Lb.	Air Permeability	Shrinkage Max.	Point Value Max.
			Grade USDA	System	Denier	Filament									
Cloth, Wind Resistant Sateen, Cotton and Nylon MIL-C-43191	(a) 50%(-5%) Cotton & 50%(+5%) nylon	1 1			2-3 2-3		(1)	8.5 9.0	5-harness sateen (5)	126 72	180 180	(5132) 6 6	7.0	(5550) 2% 2%	30.00

Cloth, Broadcloth, Wool, and Wool Synthetic
MIL-C-82252
(See also under Wool Cloths)

Type I- Wool
(See Wool Cloths)

Type II- Synthetic Wool

Class 1- 15.5 oz.,
Blue 83% min. 1 1 70's Woolen
Class 2- 16.5 oz., fleece(2)
Scarlet and/or 1 1 60's "
pulled
wool &
17% max.
synthetic
fiber (1).

(9)
54 15.0 16.0 2 right 56 55 50 45
min. 1 twill
" 16.0 17.0 " 54 54 55 45

(5590)
2% 1 1/2% 15.00
3 1/2% 2 1/2% 15.00

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Water Repellency, etc.)	NOTES (Not Specification Requirements)
MIL-C-43191	(4) Cloth shall be finished with filling effect side as face. Cloth shall be singed, desized, mercerized, dyed, & given an approved Quaryl-type water repellent treatment. Spray rating: 90, 90, 80 (5526). Hydrostatic Pressure, min. avg: Initial- 35; After 3 launderings: 30 min. (5514). Dynamic absorption: Initial- 20 max.; After 15 launderings- 20 max. (5500). pH: 6.5 - 8.5 (2811).	Color - Shall be Olive Green 107 - standard sample available (3-8). Colorfastness - standard sample available (5660-5610-5651-5680-5600).	(7) (a)Nylon shall be semi-dull, high tenacity, high modulus staple, made from hexamethylene diamine and adipic acid, with a melting point of 250°(+6°)C. Use of nylon waste is prohibited. Filling effect side shall be identified by stamping "face" on that side at the end of the roll. Seam efficiency: 80% (5110).	Intended Use - In clothing where a high degree of wind resistance and thermal resistance is of prime importance.
MIL-C-252 Type II Class 1 Class 2	Cloth shall be scoured, fulled, free from vegetable matter, with a uniformly developed broadcloth finish. Cloth shall be pressed and have a lustrous face finish equal to that of the standard sample. When specified, cloth shall be moth repellent treated in accordance with the method specified by the contracting officer. pH: 4.0 - 8.0.	Color - Class 1 shall be dyed with indigo dye to match standard sample of Blue 2307(3). Class 2 cloth shall be stock dyed with suitable chrome dyestuffs to match standard sample of Scarlet 2501 (3). Colorfastness - standard sample available (5660-5622-5680-5651).	(7)	Intended Use - In service, semi-dress, and dress uniforms and functional clothing.

REFERENCES

MODIFIED FIBER CLOTHS - WOVEN

Textile Test Methods - CCC-T-191b

<u>Method</u>	<u>Title</u>
<u>Chemical</u>	
2050	Copper content of textiles, Electrolytic method.
2051	Copper content of textiles, Polarographic method.
2100	Wool content, acid method.
2800	Wool fiber damage, alkali solubility method.
2810	Acidity (pH), colorimetric method.
2811	Acidity (pH), potentiometric method.
<u>Construction</u>	
5040	Weight of cloth; cut, roll or bolt method.
5050	Yarns per inch in woven cloth.
<u>Mechanical</u>	
5100	Strength and elongation, breaking, of woven cloth, grab method.
5104	Strength and elongation, breaking, of woven cloth, ravel strip method.
5110	Sevability; strength-of-seam method.
5132	Tearing strength, pendulum method (Elmendorf).
5134	Tearing strength, tongue method.
5202	Stiffness, directional; cantilever bending method (Tinius Olsen).
5206	Stiffness, drape and flax; cantilever bending method (Pierce formula).
<u>Air Permeability and Water Resistance</u>	
5450	Air permeability, calibrated orifice method (Frazier).
5500	Water resistance, dynamic absorption.
5514	Water resistance, hydrostatic pressure, low range.
5526	Water resistance with hydrophobic finish; spray method.
<u>Colorfastness</u>	
5600	Chlorine bleaching; cloth.
5610	Laundering, cotton and/or linen; Launder-Ometer.
5614	Laundering of wool, silk, rayon cloth; Launder-Ometer.
5622	Wet cleaning (with dry cleaning).
5630	Water, cold.
5632	Salt water and soap.
5651	Crocking of cloth.
5660	Light, accelerated (Fade-Ometer).
5670	Weather; accelerated method (Twin Arc Weather-Ometer).
5680	Perspiration; perspirometer method.
5682	Perspiration; tube method.

GENERAL NOTES

COATED CLOTHS

The following parenthetical numbers are utilized throughout this section of the text as referenced notes. Upon observing these numbers, refer to this page for further information dealing with specific portions of the item.

- | | |
|---------------------------------|--|
| (1) As specified. | (5) Bid sample and laboratory report. |
| (2) Width exclusive of selvage. | (6) Nonfibrous, etc., restrictions. |
| (3) Colormatching. | (7) Width inclusive of selvage. |
| (4) Preproduction. | (8) Weave diagram and/or instructions. |

The specific test methods referenced in this section of the text are listed with their titles at the end of the section.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz./ Sq Yd	Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength P.S.I. Min (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
								After Flame Test	Char Flame length				
								Min	Max				
Fabrics, Upholstery													
CCC-F-66a, And. 3													

(Continued)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
CCC-F-66a				
Type I				
1.		Color (1).		
2.		Colorfastness - "fair"		
3.		(5660, for 40 hours).		
4.				
5.				
Type II				
6.	Loop pile cloths shall	Color (1).		
7.	be guaranteed resis-	Colorfastness - "fair"		
8.	tant to moths & other	(5660, for 40 hours).		
	insects for 5 yrs. min.			
	Moth-resistant compound			
	shall be nontoxic and			
	nonirritant.			
Type III				
9.	Mohair velvets shall be	Color (1).		
10.	guaranteed moth-resis-	Colorfastness - "fair"		
11.	tant for 5 yrs. min.	(5660, for 40 hours).		
	Compound used shall be			
	nontoxic & nonirritant.			

(Continued)

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd	Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Crn. Max. Wcrp (5204)	Bursting Strength lb/2" wide (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)	
								After Flame sec min	Char length Max"					
Fabrics, Upholstery CCC-F-66a, And. 3 (Cont'd)					Min	Max	W	F	W	F	W	F	70°F-40°F	
Type IV- Misc. Cloths					Yards/Inch									
12. Dobby					Face warp: wool &/ or mohair. Back warp & fill: cotton &/ or rayon.	Back coated with min. 1.8 oz. of synthetic resin, natural, or synthetic-rubber latex/lin yd (54")	19 (un-coated) per lin. yd. (54")	(1)	18	24				
									(face)					
									36					
									(back)					
13. Dobby (novelty)					Face: 30% min. wool &/ or mohair; balance rayon. Backing: cotton &/ or rayon.	"	23.5 "	(1)	12½	9½				
									(face)	(face)				
									25	19				
									(back)	(back)				
14. Rough texture (plain or print)					100% cotton; twisted 2-ply; vat dyes		15 per lin. yd. (54")	(1)	32	32				
15. Cretonne (printed)					100% cotton; vat dyes		10 "	(1)	60	50				
16. Friezette					100% cotton		15 "	(1)	80	30				
17. Mohair satin (plain or print)					Warp: cotton. Filling: 25% min. mohair or wool; balance rayon.		14 "	(1)	66	60				
18. Duck (dyed or print)					Not less than 2-ply cotton, vat dyed colors, mildew resistant & water-repellent treated.		12 "	(1)	50	40				

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
CCC-F-66a (Cont'd) Type IV 12. 13. 14. 15. 16. 17. 18.	Cloths Nos. 12, 13 & 17 shall be guaranteed resistant to moths & other insects for 5 yrs. min. Moth-resistant compound shall be nontoxic & nonirritant.	Color (1). Colorfastness - "fair" (5660 for 40 hours).		

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width	Breaking Strength	Tearing Strength	Hydrostatic	Flame Resistance (5903)		Flexi- bility Cm. Max. Warp	Burst- ing Strength Pli. Min.	Adhe- sion lb/2" wide	Block- ing Seal rating
			Oz / Sq Yd (5041)	Inch (5100)	Lb. Min. (5132)	Pr (5012)	After Flame sec min	Char Flame length Max"	W/F				
Screening, Non-metallic, Insect L-8-125, Amd. 3 (GL)			Min Max		W F	W F		W F	W F	70°F - 40°F			

Screening, Non-metallic, Insect
L-8-125, Amd. 3 (GL)
(See also under Synthetic Cloths)

Type I- Polyvinylidene chloride
(See Synthetic Cloths)

Type II- Plastic coated or impregnated fibrous glass

Class 1- 0.0115" dia.

Size 16x16
Size 18x14
Size 18x16
Size 18x18
Size 20x20
Size 22x22

Compound of polymerized or copolymerized virgin vinyl chloride resin, plasticized with phosphate or phthalate ester plasticizers exclusively. Pigmented.

(1)
"
"
"
"
"

10
10
10
10
10
10

(a)
-
-
90
105
150
160

No. 1
"
"
"
"
"

Class 2- 0.0130" dia.

Size 16x16
Size 18x14
Size 18x16
Size 18x18
Size 20x20
Size 22x22

(1)
"
"
"
"
"

10
10
10
10
10
10

180
180
-
200
250
275

No. 1
"
"
"
"
"

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
L-8-125 Type I Type II Class 1 Size 16x16 Size 18x14 Size 18x16 Size 18x18 Size 20x20 Size 22x22 Class 2 Size 16x16 Size 18x14 Size 18x16 Size 18x18 Size 20x20 Size 22x22		Color shall be integrally incorporated in the plastic coating. Aluminum shall fall between color Nos. 36492 and 36173 of Fed. Std. No. 595. Colorfastness - "fair" (Fed. Std. No. 141, method 6151).	(a) See specification for requirements after heat aging, accelerated weathering, and water immersion. Tensile strength of filaments: 125,000 psi (4.4.5). Elongation of filaments: 3% max. Filament slippage resistance: Class 1- 2.5 lb. min.; Class 2- 5.0 lb. Filaments shall remain intact after 10 sec. contact with the end of a lighted cigarette. Woven or mock selvage on each edge, of at least 6 ends/edge. Splices shall be well made, show no tails, and be 1 in. max. long. Knots are not permitted. No. of splices shall not exceed 1/sq. ft. or 15 per roll.	Intended Use - For installation in or on any dwelling, patio, screen enclosure, building, or structure, for the purpose of preventing the ingress of flies, mosquitoes, or other insects, particularly where corrosive conditions are encountered.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width	Breaking Strength	Tearing Strength	Hydrostatic Pressure	Flame Resistance (5903)		Flexibility	Bursting Strength	Adhesion	Blocking
			Oz/Sq Yd	Inch	Lb. Min.	Lb.	High	After Flame	Char length	Cn. Max.	Pts.	lb/2" wide	Scale rating
			(5041)		(5100)	(5132)	(5512)						
Wall Covering, Vinyl Coated CCC-W-408			Min Max		W F	W F		W F	W F	70°F; 40°F			

Type I- Lgt. Duty	Cotton cloth, non-woven fiberglass, asbestos, or other suitable materials.	Virgin polymerized or copolymerized vinyl-chloride resin, plasticized with phosphate or phthalate ester plasticizers exclusively & shall be integrally pigmented. When necessary, cloth shall be top-coated in the same manner.	7.0 -	(1)	40	30	14	12	20	3	3	4½	4½	No. 2
Type II- Med. Duty			13.0 -	"	50	55	25	25	50	3	3	4½	4½	"
Type III- Hvy. Duty			22.0 -	"	100	95	80	50	100	3	3	4½	4½	"
Class 1- Regular finish														
Class 2- Mildew resistant														

Cloth, Coated (Table and Shelf) CCC-C-417c, Amd. 1 Cotton			Synthetic resin; 6.25 - pigmented	54 ± 1/2	30	22								No. 1
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NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
CCC-W-408 Type I Type II Type III Class 1 Class 2	Base cloth for Class 2 shall be mildew-resistant treated (5762). Coating compound shall be applied to one side of base cloth to form continuous film. Grain shall conform to that of standard sample.	Color (1) - standard sample available. Colorfastness (5660).	(4-5). Breaking strength after soil burial: 80% of initial (5762). Shrinkage: All types, warp- 2% max. Types I & II, fill-1% max. Type III, fill- 1½% max. (4.4.4). No evidence of cracking, stiffening, flaking, or separation of coating from backing at 20°F. (4.4.5). Cloth shall not become stiff or brittle, soft or tacky, discolored or show loss of grain after heat aging (5831). Crocking resistance - "good" (5651).	Intended Use - Type I; as a maintenance-free covering for areas not subjected to abrasion or wear traffic, and for ceiling. Type II; for general use in areas where there is average traffic and scuffing. Type II; only as wainscot or lower wall protection for areas exposed to damage by moveable equipment or to abusive conditions such as exist in hospitals.
CCC-C-417c	Cloth shall be coated on one side. Coated cloth shall have glazed or satin finish, without pattern.	Color (1) - to match White No. 70001, Green 70167, Red 70042, or Yellow 70205 (3). Colorfastness - "good" (5651-5660). Red shall show "fair" in 5660.	Cloth shall show no cracking or flaking (4.3.1). Cloth shall be nontoxic to personnel.	Intended Use - For table and shelf covers.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High	Flame Resistance (5903)		Flexibility Cm. Max. We: p	Bursting Strength P.S.I.	Adhesion lb/2" wide	Blocking Scale rating
			Oz/ Sq Yd						After Flame sec min	Char length Max"				
			(5041)			(5100)	(5132)	(5512)	W F	W F	(5204)	(5122)	(5970)	(5872)
			Min	Max		W	F	W	F	W	F	70°F	40°F	
Cloth, Coated (Rubber and Plastic) and Plastic Sheeting for Hospital Use														

Type I- Cotton or Woven cotton or synthetic cloth synthetic fiber. (rubber coated both sides)

Natural or synthetic rubber or a mixture of the two; pigmented

(1) 50 50

25 lb.
5 min.

7.0
min.

Type II- Cotton or synthetic cloth (vinyl coated both sides)

"

Vinyl-chloride polymer or copolymer, plasticized; pigmented

(1) 50 50

25 lb.
5 min.

7.0
min.

Type III- Plastic unsupported film (sheeting)
Class 1- 0.004" thick
Class 2- 0.006" thick

Film shall conform to Type I, class 2 of L-P-375, except that plasticizers other than phosphate and phthalate may be used.

(2)

200 200
(lb/in. of thickness)

Color 1- Clear (Types II & III only)
Color 2- Black (All Types)
Color 3- White (All Types)
Color 4- Maroon (All Types)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
ZZ-C-450b Type I Type II Type III Class 1 Class 2 Color 1 Color 2 Color 3 Color 4	Type I- Uniformly coated on both sides and dusted with talc. Coated cloth shall be vulcanized. Type II- Uniformly coated on both sides. Type III- Sheeting shall be constructed from unsupported film.	Color (1) - to match cable number of Fed. Std. 595 or approved color standard (3).	(4) Thickness: Types I & II: 0.013-0.018 in. (5030). Cloth shall show no softening, tackiness, hardening, peeling, or blistering when exposed to phenol. Type III shall not decrease in weight more than 4%. "Good" fastness to crocking. Same after exposure to alcohol. Type I shall show the same results when exposed to accelerated vring. Volatility: Type II- 5% max. Type III, Class 1- 7 1/2%; Class 2- 9% max. Types I & II shall show no softening, tackiness, hardening, peeling, or blistering during steam sterilization. "Good" fastness to crocking.	Intended Use - For the protection of mattresses on hospital beds.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz / Sq Yd (5041)	Width Inch	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5132)	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flex. bility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
								After Flame	Char Length				
			Min Max		W F	W F		W F	W F	70°F - 40°F			

Cloth, Glass,
Coated, (For Mem-
brane Waterproofing
and Built-Up Roofing)
HH-C-466b

Glass fiber. Thread count: 10-24 yarns per inch in both warp and fill. Uniform resin coating compatible with asphalt or coal-tar base compounds.

1.5 5.2 36 75 75
(+1 1/2 - 1/2)

Cloth shall also be available in widths from 2-45 in. in increments of 1 inch.

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
HH-C-466b	Glass fiber shall be acid resisting, shall not rot or decay and shall show min. capillary and wicking action.		Mock or woven selvage on each side (or one of each on either) or no selvage at all. Selvages shall be 1/8 - 1/2 in. wide. Cloth shall not crack (4.4.1). Weight of dry base cloth: 1.2-2.4 oz. Weight of organic coating: ratio of coating to cloth - 0.593-1.00. Volatile matter content: 3.8% max.	Intended Use - In membrane waterproofing and built-up roofing.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd	Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
								After Flame	Char Length				
			(5041)		(5100)	(5132)		sec	Min				
Min Max					W F	W F		W F	W F	70°F	40°F		

Cloth, Tracing,
Sensitized
DDD-C-471c

Types:
I- Photographic
II- Diazotype
III- Brownprint
IV- Blueprint
Subtypes:
A- Sensitized
matte sur-
face, smooth
back
B- Sensitized
matte sur-
face, matte
back
C- Sensitized
smooth surface, form to CCC-C-531.
matte back
Classes:
1- Projection,
Photographic
2- Contact,
Photographic
3- Wash-off,
Photographic
4- Diazotype,
Ammonia process
5- Diazotype,
Moist process
Colors:
A- White cloth
B- Blue cloth
Styles:
1-A- Black line
1-B- Sepia line

(5102)
(1) 65 45
(1b/2")

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
DDD-C-471c Types: I II III IV Subtypes: A B C Classes: 1 2 3 4 5 Colors: A B Styles: 1-A 2-B	Coatings shall adhere to base cloth & shall not strip from cloth during processing. Sensitized cloth shall be free from pinholes, scratches, abrasion marks, coating streaks, spots & areas of higher or lower sensitivity than surrounding areas. Sensitized cloth shall have a matte surface on one or both sides (1) that will be suitable for accepting pencil and ink lines, yielding solid lines without skipping, feathering, or smudging. Surface shall have suitable erasing qualities. Curl of full processed prints of all types of cloth shall not curl more than 25 mm.	Color - A cloth shall be white. B cloth shall have uniform bluish tint.	Cloth shall be furnished in a thickness of 0.0042 ±0.0002 in. including coating. Thickness shall not vary + 20% from thickness specified. Fully exposed & processed cloth shall resist chipping, flaking, and crazing (4.4.9). See specification for special instructions & requirements. All types of sensitized cloth shall be capable of producing a final reproduced copy that is clear and legible. Cloth shall have clear, even backgrounds, free from mottle, spots, or other defects which would make prints unsuitable for purpose intended.	Intended Use - In the making of photographic enlargements or reductions of original drawings and tracings, and for making reproductions of original drawings and tracings.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Ow/roll Weight lb/36 Yd	Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High	Flame Resistance (5903)		Flexibility Cm. Max. Warp	Bursting Strength Pb. Min	Adhesion lb/2" wide	Blocking Scale
								After Flame	Char Length				
			(5041)		(5100)	(5132)	(5512)	sec min	Max	(5204)	(5122)	5970	5872
Cloth, Nylon, Coated:			Min Max		W F	W F		W F	W F	70°F	40°F		
Waterproof and Flame Resistant													
CCC-C-00480 (GSA-FSS)													

Type I- Light weight

Class 1- Coated with chloroprene	Bright, continuous filament nylon. Use of regenerated rubber.	Suitable compound- ed chloroprene	6±.25	(1)	120	120	15	15	20		no crack break or flake	4
Class 2- Coated with vinyl chloride polymer or copolymer resin	Plain weave. Yarns/ inch: 38 in warp & fill. Weight: 2 ± .10 oz. Breaking strength: 90 lb. in warp and fill.	Suitable polymer or copolymer of vinyl chloride resin properly plasticized.	6±.25	(1)	120	120	15	15	20		no crack break or flake	4

Type II- Heavy weight

Class 1- Coated with chloroprene	Bright, continuous filament nylon. Use of regenerated nylon is prohibited.	Suitable compound- ed chloroprene rubber.	15±.5	(1)	225	220	45	45	40		no crack break or flake	4
Class 2- Coated with vinyl chloride polymer or copolymer resin	Plain weave. Yarns/ inch: 22 in warp & fill. Weight: 5.5 ± .14 oz. Breaking strength: 180 lb. in warp and fill.	Suitable polymer or copolymer of vinyl chloride resin properly plasticized.	15±.5	(1)	225	220	45	45	40		no crack break or flake	4

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
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CCC-C-00480

Type I
Class 1
Class 2
Type III
Class 1
Class 2

Finished cloth shall be smooth & flexible & shall not become sticky or tacky. When flame resistant cloth is specified, coating shall be treated with or contain an evenly disposed inhibitor or flame retardant, which shall be nontoxic, nonirritant, & free from objectionable odor. When flame resistant treated, cloth may weigh an additional 2½ oz/ sq yd.
pH: 5.0 - 9.0 (2811).

Color - Unless otherwise specified, color shall be natural, sea blue, orange-yellow, tan, and olive green (1).
Colorfastness - "good" (5660-5651-5630-5804).

Shrinkage: 1% max. (5552).
Accelerated aging: Class 1 shall not become stiff or brittle, soft & covers, & for use where extra low or high temperatures prevail. Class 2- coating shall retain 75% min. of its breaking strength (5804), and shall not crack. Coated surfaces shall not adhere, become tacky, or show signs of exudation or loss of flexibility (5804). Cloth shall show no leakage when grade 10 lubricating oil (Fed. WV-0-526) is held in a pocket of the cloth. Coated surface shall not crack upon bending after being immersed for 5 min. in hexane.

Intended Use - Class 1: for the making of waterproof tarpaulins & covers, & for use where extra low or high temperatures prevail. Class 2: for the making of waterproof or flame resistant tarpaulins & covers, & for use where extra low or high temperatures prevail.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5203)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5222)	Adhesion lb/2" wide (5270)	Blocking Scale rating (5272)
			(5041)						After Flame length sec. Min.	Char length Max.				
Cloth, Coated; Pyroxylin Coated CCC-C-501b			Min	Max		W	F		W	F	70°F	-40°F		

Type I- (coated on one side)

Class 1- 6.3 oz. Cloth, cotton, sheeting, conforming to Type VII, Class 1 of CCC-C-501b that cloth shall be de-sized and require- ments for shrink- age & breaking strength shall not apply.

100% virgin cell- ulose nitrate, plasticized & pigmented.

6.3 (1) 50 40 (5516) no leakage

Class 2- 7.7 oz. Cloth, cotton, print conforming to Type II, Class 1 of CCC-C-501b. See above for coating details.

" 7.7 " 40 35 "

Class 3- 12.0 oz. Cotton sateen, de- sized & secured (6). Warp flush side shall be the face. Yarns/ inch: 96 in the warp; 64 in the fill.

" 12.0 " 85 75 "

Type II- (coated on both sides)

Class 1- 15.5 oz. " " 15.5 " 110 100 "

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
CCC-C-501b Type I Class 1 Class 2 Class 3 Type II Class 1	Type I- Coating shall be applied to face side of base cloth only. There shall be no striking through of coating to the back of the cloth. Grain shall match grain std. Type II- Coating shall be applied equally to both sides of base cloth. Grain shall match grain standard.	Color - Type I, Classes 1 & 2, unless otherwise speci- fied, color shall be natural. When color is specified, cloth shall be dyed in accordance with CCC-C-432. Color shall match approved standard shade (3). Type I, Class 3, color shall be dyed as specified in CCC- C-432. (3). Standard samples available. Type II, Base cloth shall be undyed (greige).	(4) Flexing resistance: no evidence of ink penetration through the coating of all Types and Classes (4.4.1). "Good" fastness to crocking in all Types & Classes (5651).	Intended Use - In the manufacture of footwear components and other similar items.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (50±1)	Width Inch	Breaking Strength Lb. Min. (51±20)	Tearing Strength Lb. (51±32)	Hydrostatic Pressure High (55±2)	Flame Resistance (59±3)		Flexibility Cm Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale (5872)		
								Aff. Flame sec min	Char Length Max"						
Cloth, Coated, Window Shade			Min	Max	V/F (102)	W/F		W/F	W/F	70°F	40°F				
CCC-C-521c, Amd. 1 Commercial window shade griage goods. Yarns/inch: for widths up to 63 in, 68 in warp & fill; for widths 63 in. and over- 56 in the warp, 52 in the fill.		Impregnating compound shall be polymerized or copolymerized vinyl chloride resin, plasticized with phosphate or phthalate ester plasticizers; exclusively pigmented. No starches, dextrines or other water soluble sizing or filling compounds, or water soluble flame retardants shall be used.	4.8	-	(1)	30	40	12	10	2	2	5 1/2	5 1/2	17-23	No. 2

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
CCC-C-521c	Both sides of base cloth shall be impregnated. When window shade is specified for blackout purposes, the diffuse luminous transmission of a single layer of cloth shall average no more than 0.001 or 1%. No area of the cloth shall transmit more than 0.003 of 1%. The cloth shall have no pinholes or streaks.	Color - Shade shall be furnished in the following solid colors or 2 color combinations (dark on one side & light on the reverse side)(1): Black white, green, light ecru, dark ecru; green/white, green/light ecru; green/dark ecru. Standard samples available. Colorfastness - "good" (5560), "pass" (bleeding and streaking - 4.4.1).	(4) Resistance to cracking: "pass". (4.4.1).	Intended Use - Used in the manufacture of Window Shades in accordance with Fed. Spec. DD-S-251.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width	Breaking Strength	Tearing Strength	Hydrostatic Pressure	Flame Resistance (5903)		Flexibility	Bursting Strength	Adhesion	Blocking
			Oz/Sq Yd	Inch	Lb. Min.	Lb.	High	Min.	Char.	Cm. Max.	gth	lb/2" wide	Scale
			(5041)		(5100)	(5132)	(55:2)	After Flame	length	Warp	Ph	Min.	
			Min	Max	W/F	W/F	W/F	W/F	70°F	40°F			
Plastic Sheet; Polyethylene; Laminated Nylon													

Plastic Sheet;
Polyethylene,
Laminated, Nylon
Reinforced
L-P-00524 (GSA-PSS)

Type I- Regular duty

50 in. x 100, Non-woven nylon 66 polyethylene
200 yd. (polyamide type 66) bonded with ela-
50 in. x 100, multifilament yarn, stonomic base ad-
200 yd. 100 denier, min. hesive. See Type
50 in. x 100, Yarn to be arranged I of L-P-378.
200 yd. so that there will
50 in. x 100, be 30 yarns/lin. ft.
200 yd. min. in both width
(Rolls) and length directions.

Peel strength
1-inch strip
lb., min.
(ASTM D 1922-61T) room temp. -20°F
100 100 3.2" no peel
3.25 4.50 77
4.00 7.00 80
4.00 7.00 85
(after tear started)

Type II- Heavy duty

Class 1- Without
grommets
Class 2- With
grommets

6x8 ft. " High density
10x12 ft. polyethylene
12x12 ft. bonded with ela-
12x15 ft. stonomic base ad-
16x16 ft. hesive. See ASTM
20x20 ft. D2103-62T.
(flat sheets)

6 ft. 100 100 5.00 6.00 90
10 ft. 100 100 5.00 6.00 90
12 ft. 100 100 5.00 6.00 90
12 ft. 100 100 5.00 6.00 90
16 ft. 100 100 5.00 6.00 90
20 ft. 100 100 5.00 6.00 90
(after tear started)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
L-P-00524 Type I 50 in. x 100 50 in. x 100 50 in. x 100 50 in. x 100 Type II Class 1 Class 2	Material shall be a 3- ply laminate formed by bonding nylon yarn between 2 sheets of polyethylene. Each ply of polyethylene shall be 0.0015 in. min. thick. There shall be some slippage of the nylon yarn when lami- nate is subjected to a tearing stress.	Color - Clear both sides. Black both sides. White both sides. Black & white reversible	Seam shear strength, 1 in. seam, room temperature, lb. min.: Type I 12 lb.; Type II- 16 lb. (ASTM D 1683-59T). Folding endurance (1 kg tension) cycles, min.: 30 x 10 ⁻⁴ (UU-P-31). Type II, Class 2 sheet shall be provided with metal grom- mets of Type I, Class 1 of MIL- G-16491. They shall be placed 3 ft. apart & not less than 1/4 in. from the edge at the sheet peri- phery. They shall be clinched tightly & installed in prepunched holes without cutting the cloth. Force to pull out grommets: 95 lb. min., Type II. (Fed. Std. No. 406, Method 1013, procedure A).	Intended Use - As protective covers for supplies loaded on railroad flat cars & open trail- ers, as a tarpaulin, as water barrier membrane in construction operation, as pit liner during evacuation work, & as a blanket for curing highway concrete. They are used as painter's drop cloth and vehicle covers also.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz./ Sq Yd	Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cn. Max. Warp (5204)	Bursting Strength Pn. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)	
								After Flame sec (5121)	Char length in (5122)					
Cloth, Tracing CCC-C-531e			Min	Max	W	F	W	F	W	F	W	F	70°F	40°F
					(5102)		Opacity, %, max. Initial After Acc. Aging							
Type I- For ink work	Plain weave cloth. Woven of cleaned yarns. Free from knots, floats, unsightly slubs and misweaves. Yarns/ inch: 90 min. in the warp; 85 min. in the filling. resistant	Applied to give a clean, complete, even, and unbroken surface, free from tears, holes, pinholes, wrinkles, or creases.			65	45		30		36				
Type II- For pencil work					65	45		40			48			
Type III- For both ink & pencil work (& moisture-resistant)					65	45		40			48			no cutting by pencil; no flaking after rubbing.

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
CCC-C-531e Type I Type II Type III	Type I: highly glazed on one side & matte on the other. Ink shall adhere uniformly to matte side, & lines drawn shall show no spreading or feathering. Matte side shall also show satisfactory erasing. Type II: high glazed on one side & matte on the other. Matte side shall have suitable "tooth" for pencil work & erasing without smudging. Type III: matte surface on one or both sides (1). Ink: lines shall lose no density where tape is applied & tape shall come off clean without removing coating. Lines shall not smear, & erase easily without damaging coating. Pencil: no smudging. Shall leave no ghost or trace of lines when erased. Typing: typed characters shall be clear & distinct, & erase easily.	Color - Cloth shall be white or blue (uniform bluish tint) (1), each of a shade which will give satisfactory performance and conform to standard commercial practice.	Cloth shall be furnished in sheets & rolls (1). No appreciable yellowing, discoloration or change in appearance of the cloth that would cause the printing time to have to be increased on the diazo or blue-printing machine after exposure to accelerated aging & ultraviolet radiation. Heat resistance: there shall be no tackiness or sticking of the cloth. Type III: Water resistance- no stretching, wrinkling, deterioration, water spots, or opaque marks.	Intended Use - Type I: for preparation of ink drawings of the finest character, and from which photolithographs and blueprints of the maximum degree of legibility may be made. Type II: for the preparation of fine architectural and similar type drawings in pencil, using the matte side only, and from which good blueprints may be made. Type III: for the preparation of fine ink or pencil drawings from which photolithographs and blueprints of a high degree of legibility may be made. This type of cloth shall be used when a water-resistant quality is desired.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width	Breaking Strength	Tearing Strength	Hydrostatic Pressure	Flame Resistance (5903)		Flexibility	Bursting	Adhesion	Blocking	
			Oz/Sq Yd	Inch	Lb. Min.	Lb.	High	After Flame	Char Length	Cm. Max.	Strength	lb/2" wide	Scale rating	
			(5041)		(5100)	(5132)	(5512)	sec min	Max"	(5204)	(5122)	5970	5372	
Cloth: Tracing, Printed CCC-C-536			Min	Max	W	F	W	F	W	F	W	F	70°F	40°F

Type I- Profile cloth
Type II- Cross section cloth
Type III- Logarithmic cloth
Type IV- Plan profile cloth

Plain weave cotton, free from excessive number of imperfections of manufacture.

Applied to produce even, unbroken surfaces free from pinholes and other defects. Coating should permit use of drawing ink thereon, after 1 application of Fuller's earth or similar medium, without allowing ink to penetrate cloth.

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
CCC-C-536 Type I Type II Type III Type IV	Highly glazed surface on one side, and dull finish on the other. Cloth shall have a bluish tinge, be highly transparent, and the dull side shall be capable of one complete erasure of black water-proof drawing ink lines and the redrawing of another set of lines on the same surface area without detrimental change in the character and quality of the lines or surface of the cloth.	Color: (1).	Printing: to be done by the use of rollers or plates as the case may require. Printing shall be done on glazed side of cloth. Rulings: shall be commercially standard according to type.	

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width	Breaking Strength	Tearing Strength	Hydrostatic Pressure	Flame Resistance (5903)		Flexibility	Bursting Strength	Adhesion	Blocking
			Oz / Sq Yd	Inch	Lb. Min.	Lb.	High	After Flame	Char length	Cr. Max. Warp	Pts. Min.	lb/2" wide	Scale rating
			(5041)		(5100)	(5132)	(5512)	sec min	Max"	(5204)	(5122)	5970	5872
Cloth, Laminated. Cotton; Rubber or Synthetic Rubber			Min Max		W F	W F		W F	W F	70°F 40°F			

Type I- Print to Print	Outer cloth shall conform to Type IV, Class 2, & inner cloth shall conform to Type III, Class 2 of MIL-C-299 (6). Copper content: 0.003% max. Manganese content: 0.0015% max.	Natural or synthetic rubber. Reclaimed rubber shall not be used. Base cloths shall be combined back to back with coating between the plies, then vulcanized. Face of the cloth shall be free from coating.	(7) 11.0 min.	35	100	60	40	25	80 (initial) 40 (after strength of coating) 40 (after low temp. resistance)	13.0 14.0 (after heat treatment)	10 (Initial) 8 (After water spray) 7.5 (After acc. aging)		
Type II- Twill to sateen	Outer & inner cloth shall conform to: Outer 2/1 rt. twill Inner 5-harness fill. sateen		11.5	(1)	85	80	55	50	40 (initial) 20 (after low temp. resistance)		14		
Weight max.	3.2	3.3											
Breaking- W	50	28											
F	38	50											
Yarns/in- W	70	56											
F	66	38											
Tearing- W	30	55											
F	25	48											

(6) Manganese & copper:
same as for Type I.

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-678A Type I Type II	When specified, cloth shall be made mildew resistant by impregnation with 1.35±.25% 2,2 methylene (bis-4-chlorophenol), (dihydroxy-1-chlorodiphenylmethane) using 2 bath aqueous or solvent application. Treated cloth shall not lose more than 10% of breaking strength in the warp. Type I: base cloth shall be given a suitable water repellent finish.	Color - Cloth shall be vet dyed Green OG 107 - standard sample shade available (2). Colorfastness - "good" (5651-5660-5610-5600-5630-5682).	(4) Water absorption: Type I- 0.30 grams max.	Intended Use - In the manufacture of wet weather clothing.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Can. Max. Warp (5204)	Bursting Strength Pts. Min (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)	
			(5041)	(5041)		(5100)	(5100)	(5132)	(5132)		After Fir. (5512)						
											min	Max					W
Artificial Leather, Cloth, Coated, Vinyl Resin, (Upholstery) CCC-A-700e			Min	Max		W	F	W	F		W	F	W	F	70°F	40°F	
								(5136)									
Class 1- 15.0 oz/sq yd.	Option "a" sateen- 1.32 yd/lb.	When treatment (b) is not specified: virgin vinyl chloride polymer or virgin vinyl chloride acetate co-polymer. Materials containing mercurial compounds or water soluble ingredients shall not be used. When treatment (b) is specified: coating compound shall conform to CCC-D-950, 3.2.3.1, when inhibitor (e) is used. When other inhibitors listed in CCC-D-950 are used coating compound shall conform to 3.2.3.1, and, in addition, only phosphate or phthalate ester plasticizers shall be used.	15.0	-	50	125	100	7	8	70					8	No. 3	
	Option "b" sateen- 1.21 yd/lb.		15.0	-	54	125	100	7	8	70					8	No. 3	
Class 2- 18.0 oz/sq yd.	Option "a" sateen- 1.12 yd/lb.		18.0	-	50	140	130	8	9	100					8	No. 3	
	Option "b" sateen- 1.02 yd/lb.		18.0	-	54	140	130	8	9	100					8	No. 3	
Class 3- 20.0 oz/sq yd.	Option "a" broken twill- 1.14 yd/lb.		20.0	-	50	120	120	8	9	100					8	No. 3	
	Option "b" broken twill- 1.05 yd/lb.		20.0	-	54	120	120	8	9	100					8	No. 3	
Class 4- 25.0 oz/sq yd.	Knitted- 6.70 oz.		25.0	-	54	110	100	20	20	100					8	No. 3	
Class 5- 29.0 oz/sq yd.	Chafar duck- 11.65		29.0	-	54	140	140	16	16	100					8	No. 3	
Class 6- 40.5 oz/sq yd.	Chafar duck- 11.65		40.5	-	54	140	140	18	18	100					8	No. 3	
Class 7- 18.0 oz/sq yd.	Knitted- 5.20 oz.		18.0	-	54	80	70	13	12	100					8	No. 3	
Class 8- 10.5 oz/sq yd.	Grade B airplane cloth- 2.05 yd/lb.		10.5	-	56	80	70	3.5	3.5	70					8	No. 3	
(Continued)																	

(Continued)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
CCC-A-700e Class 1 Class 2 Class 3 Class 4 Class 5 Class 6 Class 7 Class 8 (Continued)	Coated cloth shall be a base cloth coated on the face side. Grain shall match approved grain std.	Color - Shall match applicable color number of Fed. Std. 595 or other color standard or standard sample for color specified (1-3). Colorfastness - "good" (5651).	(4) Abrasion resistance: no visual loose fibers of base cloth shall be exposed in the center 1 in. of the abraded portion. Accelerated weathering (200 hours): no appreciable fading, discoloration, exudation, development of tackiness, or stiffness. Elongation: Class 4 & 7: 5% min. in the wales; 25% min. in the courses. Cold resistance at -20° ± 2°F: coating shall not crack through the base cloth (5874). Plasticizer loss (max.), activated carbon extraction: Classes 1-7 - 8%; Class 8 - 12%.	Intended Use - Classes 1 & 8: for applications where there is no great stress on the coated cloth; such as for flat upholstery (slip seats and other padded applications), headlinings, slipcovers, door panels, weather stripping, velting, and miscellaneous applications where properties of coating & decorative values are principal considerations. Class 2: for medium spring upholstery applications. Classes 3, 4, 5 and 7: for deep spring construction. Class 6: for exceptionally heavy-duty rugged service such as used in buses. (Deep spring construction is spring construction of a depth greater than 3 in.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure	Flame Resistance (5903)	Flexibility Cn. Max. Warp	Bursting Strength Pts. Min.	Adhesion lb/2" wide	Blocking Scale rating
			Oz/ Sq Yd		Lb. Min.	Lb.	High	After Flame sec. min				
			(5041)		(5100)	(5132)						
Artificial Leather, Cloth, Coated, Vinyl Resin, (Upholstery)			Min Max		W F	W F		W F W F	70°F -40°F			

Treatments:

a. Fire resistant

(1) Regular

after acc-

2 2 3 3

elerated

aging shall

be not less

than 75%.

(after leaching)

initial (coated)

2 2 3 3

after leaching

resistance &

accelerated

aging shall

not be less

than 75%.

initial (coated).

(2) Special

b. Mildew resistant

Base cloth or coating compound shall be treated with 1 of the inhibitors listed in CCC-D-950. When coating is treated, treatment shall be limited to inhibitor (e) (solubilized copper 8-quinolinolate). Amount of fungicide shall be based on total ave. weight of treated base cloth for base cloth treatment and on nonvolatile content of coating for coating treatment.

c. Oil resistant

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
CCC-A-700e (Cont'd) Treatments: a. (1) (2) b. c.	Reverse side of fire resistant treated coated cloth may be flash coated with the same coating compound used on the face. Weight of flash coating may not exceed 0.5 oz/sq yd. and shall be exclusive of min. coating weight listed.			Intended Use - For use in special installations (a). For use in unusually damp climates (b). For use where exposed to solvents and oil (c).

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5132)	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
								After Flame	Char length sec. Min. Max.				
Duck; Cotton, Enamelled			Min	Max	W	F	W	F	W	F	70°F	40°F	

CCC-D-741, Am. 1 Cotton duck, double- Enamel, impervi- 22 - 50 120 70
 filling (2-ply); ous to moisture. (50") min.
 Yarns/inch; 54(+1) lin yd
 in the warp; 28(+1)
 in the fill. Warp:
 singles, Fill:
 2-ply.

Cloth, (Cotton Duck),
 Laminated, Synthetic
 Rubber Impregnated,
 Oil Resistant
 MIL-C-862B

Cotton, 8.0 oz/sq yd. min. Warp count (unvulcanized): 50 + 1 threads/inch; fill count: 40 + 2 threads/inch (unvulcanized).

Synthetic rubber of either of 2 classes: Class 1- compounds utilizing chloroprene as the basic material. Class 2- compounds utilizing a copolymer product of butadiene & acrylonitrile as the basic material.

(1)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
CCC-D-741	Coated on one side. Flexible without breaking enamel.	Color (1).	Permeability: hydrostatic range- 0 - 200 in. in 10 min. Cloth shall be thoroughly oxidized to prevent spontaneous combustion.	

MIL-C-862B

Form Sheets, strips, or cut or molded items (1). See specification for applicable tolerances. Density: 67 lb/cu ft. min. See specification for load deflection limits and permanent set. Oil resistance: there shall be no delamination (4.4.5.2). The volume shall not swell more than 25% (4.4.5.2). There shall be no fungus growth (4.4.6).

Intended Use - For vibration attenuation.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength		Tearing Strength	Hydrostatic Pressure	Flame Resistance (5903)		Flexibility Cn. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)	
			Oz/	Sq Yd		Lb. Min.	Lb.			High (5512)	After Flame sec min					Char length Max" (5903)
			(5041)			(5100)	(5132)				W/F					W/F
Peulin, Waterproof, Special Purpose, 10 Feet Long by 8 Feet Wide			Min	Max		W	F	W	F		W	F	70°F	40°F		
MIL-P-1956B																
Class 1- Stitched and sealed seams	Cotton sheeting cloth, coating quality, Type VIII, Class 1 of Spec. CCC-C-432.	Compound for coating cloth & strapping material shall be synthetic rubber (except that use of natural rubber is permissible in anchor coat), plasticized & pigmented. Reclaimed rubber shall not be used.	12.5	16.0	(lot ave.)	65	55	25	20	(lot ave.)	30	(lot ave.)	11	(lot ave.)	6	No. 3
										(initial)	30	(initial)	11	(initial)	5	
Class 2- Single stitched, laid in cement & strapped seams			12.5	16.0		65	55	25	20	(after low temp. resistance)	30	(after heat treatment)	11	(after water spray)		No. 3
										(after weatherometer)	30	(after water leaching)	11			
										(after strength of coating)	30					
Class 3- Cemented seams			12.5	16.0		65	55	25	20		30					No. 3

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-P-1956B Class 1 Class 2 Class 3	Base cloth shall be coated on both sides with 8 ± 1 oz/sq yd. of coating compound. Face shall be coated with $6 \pm \frac{1}{2}$ oz. of coating compound per sq. yd. Reverse shall contain balance of coating. After vulcanization, cloth shall be free from pinholes and shall contain no more than 5 windows/lin yd.	Color - Shall be CG-207 and shall match standard sample for shade.	(4) Abrasion: no loose fibers of base cloth shall be exposed in center 1 in. of abraded portion (4.4.5). Cloth and al. sealed seams shall be dusted with whitening, talc, or other finely divided mineral material which does not support mildew growth, to prevent blocking.	Intended Use - As protective coverings for signal equipment.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5132)	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale (5872)
								After Flame sec. min	Char length Max"				
Bag, Waterproof, Clothing MIL-C-3108D (GL) Amd. 1			Min	Max	W	F	W	F	W	F	70°F	-40°F	

Class 1- Stitched & sealed seams	Shall be Type V, VI, VII, or VIII; Class 2; water repellent & mildew resistant treated coating quality cotton sheeting, conforming to Spec. CCC-C-432, except that soil burial test for mildew resistance is not required.	Synthetic rubber, pigmented to produce Olive Green 207, except that natural rubber is permissible in the anchor coat. Use of reclaimed rubber is prohibited.	7.5	12.0	40	45	800	640	(initial) 30 (after low temp. augmenting resistance) 30 (after weather resistance) 30 (after strength of coating) 30 (after solvent resistance) 30		8	8.5	(initial) 8 (after water resistance) 6.5 No. 2
Class 2- Stitched shingled, laid in cement & strapped seams			7.5	12.0	40	45							No. 2
Class 3- Cemented seams			7.5	12.0	40	45							No. 2

Cloth, Coated,
Cotton (Creped,
Phenolic Resin
Treated)

MIL-C-3154	Cotton sheeting (40"- 3.75- 48 x 40 grey goods)	Thermosetting phenolic resin
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NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-3108D Class 1 Class 2 Class 3	Coated on one side. Coated side dusted with whiting, talc, or other finely divided mineral material that does not support mildew growth to produce a uniform dull finish. To match standard sample in finish. After curing, coated cloth shall be free from pinholes & shall contain no more than 5 windows/lin yd.	Color - Shall be Olive Green No. 107 (base cloth) and Olive Green No. 207 (coating).	(4) Low temperature resistance: "pass" (4.4.2). Water resistance, spray method: "pass" (4.4.5). Water resistance: "pass" (4.4.3). Strength of coating: "pass" (4.4.4). Water resistance (spray absorption method): 20% max. (4.4.14).	Intended Use - For carrying rations, extra clothing, & personal effects that must be protected from moisture. Also as a carrying bag in conjunction with bag, sleeping, arctic & bag, sleeping, mountain. Bag is not constructed to withstand rough use or handling.
MIL-C-3154	Creped after resin treatment to increase number of picks & ends per inch not less than 15% of original construction of untreated cloth.	Color (1).	Resin content: Rools- 43 ± 2%; individual test specimens: 43 ± 5% (4.4.2). Volatile content: 6-7% ave. (4.5).	Intended Use - In the fabrication of covers for certain types of fuses.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5132)	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cn. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5672)
								After Flame length sec min	Char length Max"				
Pontoon Float (18-Fon, with Emergency Kit and Carrying Case)			Min Max		W F	W F		W F	W F	70°F	40°F		

Pontoon Float (18-Fon, with Emergency Kit and Carrying Case)

MIL-P-3671, Amd. 1 Cotton duck. Air chamber cutting discards may be used for chafing strips, repair kit pocket, & D-ring & lifting handle patches. Air chamber cloth- Yarns/inch: 18-22 in the warp; 18-23 in the fill. Weight: 17.25 - 19.8 oz. Breaking strength: 290 in warp and fill. Weave: approximately square. Bulkhead cloth- Yarns/inch: 31 in the warp; 26 in the fill. Weight: 105 oz. min. Breaking strength: 145 in the warp; 125 in the fill. Weave: approximately square.

60% neoprene by volume. Balance shall be softeners, curing agents, anti-oxidants & reinforcing material.

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-P-3671	(a) Cloth shall be passed through a friction calender and given 2 friction passes on each side. It shall then be calender-coated each side with a coat gaging between 0.010-0.012 in. for air chamber cloth & 0.008 in. for bulkhead cloth. or (b) Cloth shall be dipped in a dispersion of neoprene latex & water & run through a drier. It shall be frictioned each side & calender-coated each side with a coating gaging between 0.010-0.012 in. for air chamber cloth & 0.008 in. for bulkhead cloth.	Color - Color of finished float shall be that formed by finishing compound.	Production test model to be approved. Coating compound- Tensile strength: 1800 psi min. Elongation: 500% min. Shall show no loss of tensile strength after 24 hours accelerated weathering. Max. loss of 10% tensile strength after 96 hours accelerated aging. Water absorption shall be held to a minimum. After fabrication, floats shall be vulcanized in a pressure-type oven or in a mold.	Intended Use - As a floating support for a division floating bridge.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure	Flame Resistance (5903)	Flexibility	Bursting Strength	Adhesion	Blocking	
			Oz / Sq Yd		Lb. Min.	Lb.	High	After Flame	Char Length	Cn. Max. Warp	Pt. In	lb/2" wide	Scale rating
			(5041)		(5100)	(5132)	(5512)	Min	Max	(5204)	(5122)	(5970)	(5872)
Cloth, Coated and Laminated, Chloroprene on Nylon MIL-C-5302B			Min	Max	W	F	W	F	W	F	70°F	40°F	
Type I- Single ply, one side coated	Rip-stop nylon, conforming to Spec. MIL-C-7020, Type I, except that specified	Suitably compounded chloroprene rubber. Coating compound shall not contain ingredients	3.00 ±0.35	36 ±1/2	45	45	(5134) 2.5 2.5	50				(5950) 3	
Type IA- Single ply, both sides coated	air permeability, permanence of finish, and oven aging shall not be required.	known to promote skin irritations or have a detrimental effect on nylon.	4.00 ±0.25	36 ±1/2	55	55	2.0 1.5	50				3	
Type II- Double ply, laminated, one side coated			5.25 ±0.4	36 ±1/2	90	90	4.0 4.0	80				3	

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-5302B Type I Type IA Type II	Type I- coated on one side. Type IA- coated on both sides. Type II- 2 layers of base cloth, laminated, and coated on one side.	Color - Types I & II- unless otherwise specified, color shall match Orange Yellow color No. 13538 of Fed. Std. No. 555. Type IA shall be Black and shall match color No. 37038 of Fed. Std. No. 595.	Finished cloth shall not crack or flake when tested at -67° ± 2°F. Finished cloth shall not block, become tacky, or show signs of exudation when tested at 170° ± 2°F. (4.2.3.1 & 4.2.3.2). Flexibility- "pass" (4.2.3.3).	Intended Use - In the manufacture of anti-exposure coveralls for flying personnel.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width	Breaking Strength	Tearing Strength	Hydrostatic Pressure	Flame Resistance (5903)		Flexibility	Bursting Strength	Adhesion	Blocking
			Oz / Sq Yd	Inch	Lb. Min.	Lb.	High	After Flame	Char Length	Cm. Max.	Pts.	lb/2" wide	Scale rating
			(5041)		(5100)	(5132)	(5512)	sec min	Max"	(5204)	(5122)	5970	5872
<u>Cloth, Laminated and Tape, Coated Cloth, Natural Rubber on</u>			Min	Max	W	F	W	F	W	F	70°F	40°F	

Cloth, Laminated and Tape, Coated Cloth, Natural Rubber on Cotton, Pneumatic Flotation Equipment MIL-C-6819C

Variety N- Two ply laminated cloth, 11.2 oz/sq yd.	Plain woven cotton cloth conforming to Spec. MIL-C-6320 Class 1 or 2 (1). Defect shall be market with single strand thread, which shall be visible after coating. Any defects shall permit uniformity of coating on the spreading machine.	Min. of 80% new plantation natural rubber by volume. Balance shall be softeners, curing agents, anti-oxidants and reinforcing materials. Pigmented, 100% of the pigment shall pass through a standard 325 mesh screen. Compounds shall not be injurious to base cloth, or contain ingredients which would bloom to the surface or adversely affect finished cloth. Compound shall cure properly & provide proofing films insoluble in water. Tensile strength- Initial: 2400 psi min. After heat aging: 45 max. Elongation: 500 min. (initial); 25 max. after heat aging.	10.3	12.1	(1)	80	80						5	No. 2
						(initial)							(initial)	
						76	76						(after heat aging)	
						76	76						(after Weatherometer-100 hours)	
Variety O- Two ply laminated cloth, 18.8 oz/sq yd.			17.4	20.2	(1)	290	290						5	No. 2
						(initial)							(initial)	
						280	280						(after heat aging)	
						260	260						(after Weatherometer-500 hours)	
Variety R- Coated cloth tape, 7.7 oz/sq yd.			7.0	8.3	(1)								5	

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-6819C Variety N Variety O Variety R	Foundation compound, compatible with base cloth & coating compound shall be applied to base cloth to achieve required adhesion. Coating compound shall then be applied by a spread coating operation. Rubber coating shall be applied in sequence of operations, so that both sides of each cloth ply shall be coated & laminated. Pigment shall be incorporated in outermost coatings. Cloths shall be cured. Cured laminated cloths may be lightly dusted with talc or zinc stearate. Coated tape shall not be dusted. Tape shall have coating of high natural content rubber stock (pure gum rubber) calendered on one side. Coating shall not be fully cured. Protected by suitable liner. Edges of tape shall be smooth.	Color (1)- Usual colors chosen: Color No. 33538 Yellow (usually on straight ply side); Color No. 36231 Gray (usually on bias ply side); Color No. 35109 Blue (usually on bias ply side). Pure gum rubber coating of tape, which is not fully cured, shall not be pigmented. Opposite side shall match one of above colors.	See specification for construction and weight distribution table. Material offered for acceptance shall not be more than 90 days old. Laminated cloths- Cloths shall not have become stiff & brittle or soft & tacky after heat aging (5850). Cloths shall not become discolored or brittle after weatherometer exposure (5804). Slight blooming shall be permissible in exposed Variety N. Cloths shall show no signs of cracking after low temperature exposure (4.6.11). Cloths shall not become tacky or adhere to themselves after high temperature exposure (4.6.12). Permeability to hydrogen: Initial: 10 l/m max.; after weathering: 10 l/m max.; after low temp: 10 l/m max.; after high temp: 10 l/m max. Permeability to helium (same conditions): 5.0; 6.3; 6.3; 6.3. No air leakage under pressure (4.6.13).	Intended Use - In the manufacture of pneumatic life rafts, airplane flotation equipment and similar equipment.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cn. Max. Warp (5204)	Bursting Strength Pts. Min (5122)	Adhesion lb/2" wide (5970)	Blocking Score rating (5872)		
			Oz/Sq Yd (5041)						After Flame sec (5134)	Char Length Max" (5132)						
Cloth, Coated, Synthetic and Fibrous Glass MIL-C-7514A (USAF) Amd. 1			Min	Max		W	F	W	F	W	F	W	F	70°F	-40°F	
Type I- Cloth, glass vinyl coated (non-porous)	Types I & III: continuous multi-filament glass. Type II: copolymer of vinyl chloride and acrylonitrile.	Suitable compound- ed vinyl resin, properly plastici- zed & pigmented.	7.0 ±0.5		(1)	130	110	(5134) 3 3		2 2	2.3 2.3	<u>Time of glow</u>	3 3			
Type II- Cloth, vinyl resin, vinyl coated (non-porous)	Plain (1/1) weave.	"	7.0 ±0.5		(1)	130	110	3 3		2 2	2.3 2.3	<u>Time of glow</u>	3 3			
Type III- Cloth, glass, vinyl coated (porous)	"	"	5.5 ±0.5		(1)	180	175	5 5		2 2	2.3 2.3	<u>Time of glow</u>	3 3			

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-7514A Type I Type II Type III	Coating shall be applied to both sides of cloth, so that no bare threads show & it thoroughly impregnates the base cloth. Unless otherwise specified, coating applied to Types I & II shall be heavier on the face than on the back. Waterproofness: Types I & II shall show no signs of leakage through the unabraded portion, & no more than 5 ml. of water shall pass through the abraded portion (5516).	Color (1) - Shall be incorporated in the coating material. Colorfastness - Type III: "good" (5660-5651); "fair" (5651-wet).	Type III: Thread count: 35 yarns/in. in the warp; 30 yarns/in. in the fill. Air permeability: 150-225 ft ³ /min/ft ² . All types: Coating shall not crack, break, or become tacky. (4.5.2). Cloth shall not crack upon creasing in the presence of aromatic hydrocarbon-fluid (4.5.3). Cloth shall be non-corrosive to aluminum (4.5.4). Abrasion resistance: 500 cycles (min) shall be required to rupture 1 thread of base cloth (5306). Color of cloth shall not change in cleaning & cleaned area shall exhibit no tackiness (4.5.9). Cloth shall not lose more than 15% of its original breaking strength & shall not crack when folded sharply upon itself or show signs of blooming or material color change after exposure to heat & light after accelerated weathering (4.5.6).	Intended Use - In the manufacture of aircraft insulation & acoustical & sound proofing blankets.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength		Tearing Strength		Hydrostatic Pressure High	Flame Resistance (5903)		Flexibility Cm. Max. Warp	Bursting Strength Pts. Min.	Adhesion lb/2" wide	Blocking Scale rating	
			Oz/Sq Yd			Lb. Min.		Lb.									
			(5041)			(5100)		(5132)			(5512)						
Cloth, Coated, Asbestos			Min	Max		W	F	W	F		W	F	W	F	70°F	-40°F	
MIL-C-7637B (ASG)																	
Type I- Plain	Yarn, with min. asbestos content of 75%. Asbestos made from commercial grade chrysotile asbestos. No filling material except organic fiber. Weight: Type I- 29 ± 2 oz/sq yd; Type II- 30 ± 2 oz/sq yd. Yarns/inch: Type I- 20 in the warp & 10 in the fill; Type II: 14 in the warp & fill. Type II: each yarn shall have a single brass wire insert. Wire shall be drawn from alloy conforming to composition B (70% copper, 30% zinc) of Spec. QQ-W-321. Diameter shall be 0.008 ± 0.001 in.	Suitably compounded chloroprene polymer.	4.5 lb.	-	36 ±0.5	215	120	17	12		0	0	0	0	260	9	No blocking
Type II- Reinforced with wire		"	4.75 lb.	-	36 ±0.5	165	150	16	12		0	0	0	0	210	9	No blocking

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-7637B Type I Type II	Coating shall be applied & vulcanized on both sides, approximately equal thickness on each side & sufficiently thick to insure nonfraying of asbestos cloth. Surface of coated cloth may have a slightly pebbled grain.	Color - Shall be Black & shall be an approximate match to Shade No. 514 of ANA bulletin No. 157. An inorganic powder which is applied to the surface & which can be removed by rubbing with a damp cloth shall not be cause for rejection.	Thickness: 0.060 - 0.080 in. Coating shall not crack or flake off in low temperatures (5874). Finished coating shall not crack in heat (4.6.3.2).	Intended Use - As fire seals, gaskets, and other applications where a flexible material, highly resistant to elevated temperatures and flame, is required.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			Oz / Sq Yd (5041)						After Flame length sec min	Char length Max"				
Cloth, Coated, Cotton, Twill Weave, 1 Side Vinyl Resin Coated MIL-C-7642 (USAF) Amd. 2			Min	Max		W	F	W	F	W	F	W	F	70°F - 40°F
Type I- Aluminum color coating	Greige undyed cotton twill, napped on one side. Weave: 3/1	Vinyl resin compounded with pigments.	14.0	16.0	(1)	130	90	6	6	(5134)				No blocking
Type II- Olive drab color coating	right hand twill with 2 warp ends weaving as 1.		14.0	16.0	(1)	130	90	6	6					No blocking

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-7642 Type I Type II	Coating shall be applied to unnaped side. Use of dyestuffs, detergents, or other chemicals or finishing agents which would cause deterioration in storage or dermatitis on prolonged intimate skin contact is prohibited. pH: 6.0 - 8.0 (2811).	Color - Type I: Aluminum (to produce bright reflectance, equal to standard sample). Type II: Olive Drab (to match shade 34087 of Fed. Std. 595).	Coating shall not crack or become soft or tacky in the presence of aromatic hydrocarbon (4.5.3). Min. 2000 wear cycles shall be required to wear 1/16 in. hole in coating (5306). Coating shall not crack or break (4.5.2). Cloth shall contain no materials or impurities that would cause crazing or discoloration of transparent molded plastic sheet. Cloth shall show no signs of cracking or blooming and shall lose not more than 10% of breaking strength after accelerated weathering (4.5.5). Tolerance $\pm 3/4$ " on 36" or less width. Tolerance $\pm 1 1/4$ " greater than 36".	Intended Use - In the fabrication of covers for molded plastic parts such as aircraft turrets, canopies, and equipment items.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High	Flame Resistance (5903)		Flexibility Cn. Max. Worp	Bursting Strength Ph.	Adhesion lb/2" wide	Blocking Scale rating
			Oz / Sq Yd					After Flame length sec	Char length Max"				
			(5041)		(5100)	(5132)	(5512)			(5204)	(5122)	5970	5872
			Min	Max		W	F		W	F	70°F	40°F	
Cloth, Coated, Rubber, Nylon Base MIL-C-7966A, Amd. 1													

Variety S- Spray shield cloth 3 oz/sq yd.	Variety S: rip-stop woven nylon conforming to Type I of Spec. MIL-C-7020, except that colorfastness, air permeability, & permanence of finish requirements need not apply. Silicone oil shall not be used on the cloth.	New plantation natural or synthetic rubber.	-	3.0	(1)	50	50	(grams) 450 350	15 (initial) 12 (after cold effect test)				1.5	No. 2
Variety P- Paulin, Bright, high tenacity cloth, 6.75 oz/sq yd.	multifilament polyamide from hexamethylene diamine and adipic acid or its derivatives). Weave: warp face 4/1 5-harness satin with a counter of 3. Weight: 3.5 oz/sq yd. max. Suggested thread count: 174 x 86 or 177 x 89.	"	-	6.75	(1)	200	150	2000 1000	15 (initial) 12 (after cold effect test) 12 (after abrasion)				3	No. 2

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-7966A Variety S Variety P	Uniform coating of 2 or more layers of rubber shall cover back of base cloth. An adhesive may be used to obtain required coating adhesion. Anti-oxidant may be incorporated in rubber to retard aging effects. No materials injurious to cloth or which might be water soluble after vulcanization shall be used. Fillers and vulcanizers shall be sufficiently fine so that a uniform product will be produced. Compound should cure properly and provide proofing films suitable for retaining water. Potability of water coming in contact with coating shall not be affected. 1": 6.5 - 8.0	Color - Base cloth: Variety S- Cloth shall be yarn or piece dyed. Face shall be a daylight fluorescent red conforming to spectrophotometric requirements in the Spec. Variety P- same. Finished cloth: surface of rubber shall be pigmented to match lusterless (blue) color No. 35042 of Fed. Std. 595.	Time elapsed from date of application of coating (stamped at end of roll) and date of delivery shall not be more than 10 weeks. Cloth shall not crack or flake when subjected to cold effect (4.7.6.1). Cloth shall not crack when folded sharply on itself, and coating shall show good colorfastness after accelerated weathering (4.7.6). Sewing qualities shall be such that there shall be no excessive needle gumming, needle breakage, or thread breakage during sewing (4.7.9).	Intended Use - Variety S: in the manufacture of spray shields for PK-2 para-rafts covered by MIL-K-8664 (Aer). Variety P: in the manufacture of life raft paulins covered by MIL-P-7967 (Aer).

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5132)	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cn. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5972)
								After Flame High (sec.)	Char Length Min. (in)				
Cloth, Coated, Nylon, Rubber Coated, Fuel-Resistant MIL-C-8068B (ASG)				Min	Max	W	F	W	F	W	F	70°F	-40°F
Type I- Cured Base cloth- Type II of MIL-C-7020 Gages: 0.010" 0.013" 0.017" 0.020"	Types I & III: Type II of MIL-C-7020 except that air permeability and permanence of finish requirements shall not apply.	Cured rubber shall not blister or crack: Original hardness- Type I: 35 ± 5 pts.; Type II: 60 ± 5 pts.; Type III: 45 ± 5 pts. Tensile strength- 1000 psi; 1500 psi; 1200 psi. Elongation- 700% min; 400% min; 500% min. After air aging (change)- hardness- -10% ± 15% ± 10% max. Tensile strength: -35% -15% -30% max. Elongation: -50% -60% -60% max. After Type I fluid aging- Tensile strength: +20%; +25%; +10% change. Elongation: +10%; +15%; +10% max. change. Volume swell: -15%; -10%; -10% max. See spec. for changes after Type III fluid aging.	36 min.								125 4 (initial) lb/in 125 (after air aging) 125 (after fluid aging) 500 4 (initial) lb/in 500 (after air aging) 500 (after fluid aging)		
Type II- Cured Base cloth- Table I Gages: 0.025" 0.050"	Type II: Thickness- 0.013 ± 0.002 in. weight- 5.5 ± 0.5 oz/yd ² . Breaking strength: 300 lb. in warp & fill. Tear strength: 20 lb. in warp & fill. Thread count: 90 yarns/inch in warp & fill.		36 min.										
Type III- Uncured Base cloth- Type II of MIL-C-7020 Gages: 0.012" 0.018"			36 min.								125 4 (initial) lb/in 125 (after air aging) 125 (after fluid aging)		

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-3068B Type I Type II Type III	Cloth shall be coated on both sides. Cloth shall not be injurious to any surface with which it should come into contact. It shall be free from pinholes and other defects which might adversely affect the serviceability of the finished product.	Color - Unless otherwise specified, color shall be Black.	Coated cloth shall not break, crack, or separate from its backing when flexed after low temperature exposure. See spec. for table of low-temperature flexibility conditioning. Rate of diffusion of Type III fuel of spec. MIL-S-3136 through cloth shall not exceed 2 fluid oz/sq ft per 24 hours.	Intended Use - As fuel metering diaphragms on aeronautical equipment, or any other application where a fuel-resistant, rubber-coated cloth is necessary.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch (5100)	Tearing Strength Lb. Min. (5132)	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cn. Max. Warp (5204)	Bursting Strength lb/2" wide (5122)	Adhesion (5970)	Blocking Scale rating (5872)
							After Flame sec min	Char length Max"				
			Min Max		W F	W F	W F	W F	70°F - 40°F			

Cloth, Coated,
Nylon Twill, Vinyl
Coated Both Sides
MIL-C-8077

Nylon; 2/1 twill.
Weight: 1.6 oz. max.
Thickness: 0.0042
in. max. Breaking
strength: 50 lb/in
in warp and fill.
Tearing strength:
4 lb. min. in warp
and fill. Ultimate
elongation: 14% in
warp and fill.
pH: 5.0 - 9.0

Suitably compound-
ed polymer or copo-
lymer vinyl resin.

3.25
±.25

36
±

60 60

(5134)
2 3

Cloth, Coated, Nylon,
Buna N Coated, 1 Side
MIL-C-8135A (88A)

Nylon; polyamide
from hexamethylene
diamine & adipic
acid or its deriva-
tives. Melting pt:
482° ± 10°F. Weave:
plain (1/1). Weight:
7.25 oz/yd² max.
Yarn ply: 2x2.
Yarns/inch: 60 in
the warp; 45 in the
fill. Breaking
strength: 325 in
the warp; 275 in
the fill. Tearing
strength: 20 in the
warp and fill.
Shrinkage: 2% max.
in warp & fill.

Buna N synthetic
rubber.

12.7 38
±1

450 350 20 20

12 No
blocking

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
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MIL-C-8077

Cloth shall be evenly
and entirely coated on
both sides. Use of det-
ergents, dyestuffs, or
other chemicals or
finishing agents which
would cause deteriora-
tion in storage or der-
matitis on prolonged
skin contact is prohib-
ited.

Color - Unless otherwise
specified, color shall be
Blue on one side and Yellow
on the other to match appro-
ved standard shades.

Flexibility: acute angle formed
by coated cloth and the horizon-
tal shall be not less than 80°.
Cloth shall not flake or crack
at temperatures of -65°F. Cloth
shall not show tackiness, blis-
tering, or softening after 24
hours at 160°F. Cloth shall be
impervious to water under static
head of 20½ in. for at least an
hour.

Intended Use - In the construction
of spray shields for life rafts.

MIL-C-8135A

(6)
Cloth shall be evenly
& entirely coated on
1 side.
pH: 5.0 - 9.0 (2811).

Color - Base cloth shall
be natural in color, unless
otherwise specified. Color
of coating shall be Black.

Thickness: 0.0155±0.0015 in.
Elongation: 35% min. in the warp;
30% min. in the fill. Cloth shall
not crack or flake at low temper-
atures (4.3.2.4). Cloth shall
show no tackiness, blistering, or
softening at high temperatures
(4.3.2.5). Cloth shall retain
95% min. of breaking strength
after accelerated aging & coating
shall show no signs of blooming,
blistering or cracking (5804).
Cloth shall show no signs of
leakage through unabraded por-
tion and not more than 5 ml.
of water shall pass through
abraded portion (4.3.2.6).

Intended Use - In the manufacture
of survival containers.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz / Sq Yd	Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High	Flame Resistance (5903)		Flexibility Con. Max. Warp	Bursting Strength Pts. Min	Adhesion lb/2" wide	Blocking Scale ref'ing
								After Flame sec. min	Char length Max"				
Cloth, Asbestos, Glass, Cotton, Aluminized			Min	Max	W	F	W	F	W	F	70°F	-40°F	
MIL-C-8240B (USAF)													
Type I- 9.2 oz.	Type I: 55% min. asbestos; 18% max. cotton; 27% min. glass. Fill- 2-ply, 1 end asbestos-cotton yarn (Underwriter's grade) & 1 end continuous-filament glass yarn.	Aluminum	11 ± 2	(1)	90	70	-	6					No blocking
Type II- 10.0 oz.	Type II: 53% min. asbestos; 16% max. cotton; 31% min. glass. Fill: 3-ply, 1 end asbestos cotton yarn (Underwriter's grade) & 2 ends continuous-filament glass yarn. Both Types: Warp- 100% continuous-filament glass yarns. Weave: 2/1 right twill.	Aluminum	12 ± 2	(1)	90	95	-	6					No blocking

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-8240B Type I Type II	Coating shall be directly adhered to warp face of base cloth by an adhesive. After application, coat shall have a smooth and highly reflective finish.		Cloth shall not crack at low temperatures (4.5.3.1). Flexibility: cloth shall show no signs of cracking (4.5.3.2). Coating shall show no signs of separation from base cloth (4.5.3.3). Metalized coating shall not crack, flake, blister, or peel during or after preflex, exposure to the globar, or the postflex (4.5.3.4). Yarns/ inch: Type I- 60 in the warp; 40 in the fill; Type II- 60 in the warp; 32 in the fill.	Intended Use - In the manufacture of protective clothing used in fire fighting garments.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width	Breaking Strength	Tearing Strength	Hydrostatic Pressure	Flame Resistance (5903)		Flexibility Cn. Max. Warp	Bursting Strength	Adhesion lb/2" wide	Blocking Scale rating
			Oz/Sq Yd		Lb. Min.	Lb.	High	After Flame	Char length				
			(5041)		(5100)	(5132)	(5512)				(5122)	(5970)	(5872)
<u>Cloth, Laminated, Sateen, Rubberized MIL-C-9074 (6L)</u>			Min	Max	W	F	W	F	W	F	W	F	
							(5134)						(5950)
													7
													(initial)
													5
													(after acc. aging)
													(min. warp only)

Cloth, Laminated, Sateen, Rubberized MIL-C-9074 (OL)

Cotton, 5-harness sateen conforming to MIL-C-10296. Filling effect side shall be the face.

Natural or synthetic rubber or mixture of both. Pigmented. Reclaimed rubber shall not be used.

23.5 1.5 (1) 190 140 (initial) 15% 15% (loss after acc. aging max.) 7.5 5.0 (initial) 30 (after acc. aging) 30 (after low temp. resis.)

(5950) 7 (initial) 5 (after acc. aging) (min. warp only)

Cloth, Laminated and Coated for Waterproof Containers MIL-C-10351B (OL)

Type I- Throat cloth, 2-ply

Type I: nylon twill, conforming to Type I of MIL-C-577.

Natural or synthetic rubber or mixture of both. Pigmented. Reclaimed rubber shall not be used.

8.0 12.5 (1) 90 90 (initial) 70 70 (after weather-o-meter) 576 384 (initial) 50 (after weather.) 80 (after low temps.)

(-65°F) 15 20 6 No. 1 (surface coat) 6 (ply)

Type II- Body cloth, 2-ply

Type II: nylon twill, conforming to Type II of MIL-C-577.

"

10.5 14.5 (1) 180 170 (initial) 160 150 (after weather-o-meter) 1024 640 (initial) 90 (after weather.) 140 (after low temps.)

17 21 6 No. 1 (surface coat) 6 (ply)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-9074B	3 layers of sateen shall be joined back to back with rubber compound between the plies. Cloth shall then be vulcanized. No strike-through of compound to either outside surface of cloth.	Color - Base cloth: color suitable for complying with color requirement for laminated cloth. Laminated cloth: CG-107, unless otherwise specified. Standard sample available (3).	(4) Both selvages shall be trimmed to give straight, uniform, fully laminated edges.	Intended Use - In the manufacture of waterproof covers for electronic equipment. Also intended for use with drafting and duplicating equipment set for packing and storing of duplicator film.
MIL-C-10351B Type I Type II	Laminated coated cloth shall be 2-ply with rubber coating applied to both outside surfaces in equal amounts. Cloth shall then be vulcanized.	Color - Base cloth: any color. Coated cloth: unless otherwise specified color shall be Black.	(4) Cloth shall not become stiff & brittle or soft & tacky after weather-o-meter (5804). Coating shall not crack or flake at low temperatures (5874). Abrasion resistance: no visible loose fibers in center 1 in. of abraded portion (5304). Both selvages shall be trimmed to give straight, uniform, fully laminated edges.	Intended Use - In the manufacture of Bag, Waterproof, General Purpose No. 160A.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/ Sq Yd		Width Inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cn. Max. Warp (5204)	Bursting Strength Pl. Min (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)	
			(5041)			(5100)	(5132)	(5512)	After		Char						
									Flame		length						
			Min	Max		W	F	W	F		W	F	W	F	70°F	40°F	
Mattress, Pneumatic MIL-M-10747E						(5102)											
Class 1- Cemented seams, I-beam construction	Plain weave nylon; 70 denier, multifilament, semi-full, in warp & filling. Cloth shall not be calendered & shall have a permanent finish. It shall be heat set to prevent distortion. Weight: 2.0-2.3 oz. Yarns/ inch: 106 in the warp; 92 in the fill. Breaking strength: 80 lb. in the warp; 60 lb. in the fill. Tearing strength: 3.5 lb. in the warp; 3.0 lb. in the fill. Shrinkage: 2% max. in the warp; 1.5% max. in the fill. Chloroform extract: 1% max. Copper content: 0.003% max. Manganese content: 0.0015% max. pH: 5.0 - 8.5.	Natural or synthetic rubber or mixture of both. Pigmented & heat-vulcanized. Reclaimed rubber shall not be used.	8.0	11.5		90	65	640	512	No (grams) leakage			6	12		6	No. 1
Class 2- Molded seams, C-beam construction			8.0	11.5		90	65	640	512	No (grams) leakage			8	12		6	No. 1

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-10747E Class 1 Class 2	Compound shall be applied to both sides of base cloth, & shall be distributed so that one side will have 1½ (1½) oz/sq yd. & the other side will have the remainder. Coating shall be vulcanized and free from pinholes, windows, or other defects which might affect serviceability. Lightly coated, (Olive Green) surface shall have a dull finish produced by an inert mineral dusting powder.	Color - Base cloth: white. Coated cloth: coating on heavily coated side, which is to be on the inside of the mattress, shall be colored Black throughout. Surface color of lightly coated side shall correspond to Olive Green 207.	(4) Abrasion resistance: no visible loose fibers of the base cloth shall be exposed in the center 1 in. of the abraded portion (5304). No cracking, flaking, or peeling of the coating at low temperatures (5874). Cloth shall not become stiff and brittle or soft and tacky and there shall be no flaking, cracking, or peeling of coating after accelerated aging (5852).	Intended Use - In conjunction with arctic and mountain sleeping bags.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High	Flame Resistance (5903)		Flexibility Cm. Max. Warp	Bursting Strength Pts. Min.	Adhesion lb/2" wide	Blocking Scale rating					
			Oz/Sq Yd	(5041)					After Flame sec min	Char length Max"									
															(5204)	(5122)			
			Min	Max		W	F	W	F	W	F	70°F	40°F						
Cloth, Coated, Glass, Silicone Rubber-Coated																			
MIL-C-10797B (GL)			Glass cloth conforming to Class C, Form 4, Cloth No. 126 of MIL-Y-1140.		Composition of a silicone rubber suitable compound. Pigmented.		18.0	21.0	36 min.	140	120 (5102)	6000	6000 (grams)	180 (initial)	13	13	11.5 (75°F)	12.5 (-60°F)	No. 3

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-10797B	Cloth shall be coated on both sides with equal amounts of compound. Coated cloth shall be vulcanized.	Color - Color of coated cloth shall be Olive Drab 209. Standard sample available (3).	(4) Stiffness after heat stability: 15.0 cm. Abrasion resistance: coating shall not be worn through to base cloth (4.4.2).	Intended Use - In the manufacture of stovepipe shields for tentage.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz./Sq Yd		Width Inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cn. Max. Warp (5204)	Bursting Strength Pk. (5122)	Adhesion lb/2" wide (5570)	Blocking Scale rating (5672)
			(5041)	(5100)		(5132)	After Flame sec. min	Char length Max. "								
									W		F	W				
Cloth, Coated, Cotton, Vinyl Coated, Fire and Mildew Resistant MIL-C-10799E																
Type I- Coated cloth																
Class 1- Plain weave 7.0-8.5 oz																
Plain weave cotton, 4½ oz., MIL-C-9231 Type I.																
Olive drab shades; virgin vinyl chloride polymer or virgin vinyl chloride acetate co-polymer. Fungicides or flame inhibitors containing mercurial compounds or water soluble ingredients shall not be used. (5134)																
7.0 8.5 (1) 80 80 2 2 (after weather-ometer)																
Class 2- Basket weave 9.0-11.0 oz																
Basket weave (4x4) cotton, 4½ oz., MIL-C-9231 Type II.																
vinyl chloride acetate co-polymer. Fungicides or flame inhibitors containing mercurial compounds or water soluble ingredients shall not be used. (5132)																
9.0 11.0 (1) 80 80 10 10 72 72 (after weather-ometer)																
Type II- Coated duck																
Class 1- Army duck, cotton, 15.5-18.5 oz																
Cotton army duck, 9.85 oz., CCC-C-419, Type III.																
Olive drab shades; Same requirements as for Olive drab shades, but only phosphate & phthalate ester plasticizers shall be used when base cloth is treated with inhibitor (a) specified in CCC-D-950. (6)																
15.5 18.5 (1) 160 110 75 60 112 77 (after weather-ometer)																
Class 3- Army duck, cotton, 12.0-15.0 oz																
Cotton army duck, 8.25 oz., CCC-C-419, Type III.																
Olive drab shades; Same requirements as for Olive drab shades, but only phosphate & phthalate ester plasticizers shall be used when base cloth is treated with inhibitor (a) specified in CCC-D-950. (6)																
12.0 15.0 (1) 125 120 3 3 88 84 (after weather-ometer)																
Class 4- Army duck, cotton, 18.0-21.0 oz																
Cotton army duck, 12.29 oz., CCC-C-419, Type III.																
Olive drab shades; Same requirements as for Olive drab shades, but only phosphate & phthalate ester plasticizers shall be used when base cloth is treated with inhibitor (a) specified in CCC-D-950. (6)																
18.0 21.0 (1) 210 130 5 5 147 91 (after weather-ometer)																
Class 5- Army duck, cotton, 22.0-25.0 oz																
Cotton army duck, 14.77 oz., CCC-C-419, Type III																
Olive drab shades; Same requirements as for Olive drab shades, but only phosphate & phthalate ester plasticizers shall be used when base cloth is treated with inhibitor (a) specified in CCC-D-950. (6)																
22.0 25.0 (1) 235 175 5 5 165 123 (after weather-ometer)																

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-10799E Type I Class 1 Class 2 Type II Class 1 Class 3 Class 4 Class 5	Either base cloth or coating compound shall be treated with solubilized copper-8-quinolinolate evenly dispersed, to deposit min. 0.18% copper as metal from copper-8-quinolinolate to max. 0.23% copper as metal from copper-8-quinolinolate. Amount of fungicide shall be based on total ave. weight of treated base cloth or on non-volatile content of coating (whichever is treated). This treatment can only be used for shades other than Olive drab when supplier can, in so doing, meet requirements for color and colorfastness. If copper-8-quinolinolate is not used as inhibitor, cloth prior to coating shall be treated with inhibitor (a) of CCC-D-950. Back shall be coated only enough to meet requirements for water absorption. Calendar coating with preformed film not permitted.	Color (1) - Shall match applicable color number of Fed. Std. No. 595 or shall match the approved color standard for color specified (3). Aluminized coating where required shall contain sufficient aluminized pigment to produce a bright reflecting surface equal to the standard sample.	(4-5) Hydrostatic resistance after abrasion: seepage of water shall not exceed 5 ml. through abraded portion. Unabraded portion shall show no signs of leakage. Cloth shall show no cracking, flaking, or separation of coating from cloth at low temperatures. After immersion in aromatic fuel, cloth shall show no cracking, flaking, or separation of coating from cloth, and when subjected to static head of 30 in. of water for 10 min., seepage shall not exceed 5 ml. Type II cloth shall show no seepage of oil through cloth. After weatherometer exposure, cloth shall show no cracking or crazing when folded sharply on itself. Color shall not be appreciably changed. Type II: resistance to water absorption: 5% max. Type II, Class 1: "good" resistance to wet and dry cracking.	Intended Use - Type I: in the manufacture of airplane wing covers, engine covers, shelters, and items having similar applications. Type II: in the insulated frame-type tent, recognition panels and floor covers where water, oil, and gasoline-proof material is required; also for carrying cases for life rafts, life raft equipment and similar items.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight: Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Score rating (5872)	
			(5041)	(5041)					After Flame sec min	Char Length Max"					
Pouch, Human Remains MIL-P-10808C			Min	Max		W	F	W	F	W	F	W	F	70°F	40°F
Flat duck, 7.26 oz. conforming to Type II of CCC-C-443, except that it shall contain no more than 3% starch and protein content including chloroform-soluble and water-soluble materials. Mildew resistant treated with Class D treatment, using inhibitor "e" or "g" of CCC-D-950. pH: 5.5 - 8.5			20	23		110	70 (5102)	1280	1600 (grams) (initial) (after low temp resistance)	1.0				6 (initial) 5.5 (after boiling)	No. 3

Cloth, Laminated:
Cotton, Balloon,
3 Ply, Air Retain-
ing Chloroprene

MIL-C-11390C (GL) Balloon cotton cloth conforming to Type HH of MIL-C-12318, except copper content: 0.003% max; and manganese content: 0.0015 max.

Compound shall contain chloroprene rubber. No natural rubber shall be used. Up to 20% of other elastomers (such as CBR) may be added to facilitate processing. Use of reclaimed rubber prohibited.

(5102)

18.5 ± 1 39 80 75 min. (initial) 90% 90% (of initial, after acc. aging)

4.5 (lb/in)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-P-10808C	Coating shall be applied in equal quantities on both sides of the cloth.	Color - Coated cloth shall be Olive Green 207. Standard sample available.	(4)	Intended Use - In the transport and burial of human remains in the field.
MIL-C-11390C	Cloth shall be coated on both sides & shall be laminated. Sections of biased cloth shall overlap 3/4 in. Coated and laminated cloth shall be fully vulcanized. It shall be dusted on both sides with whiting, talc, or other finely divided mineral material which does not support mildew growth.		(4) Permeability: 6.0 L./sq. M. (max) in 24 hours (5640). Cloth shall not become stiff or brittle or soft and tacky or show other signs of improper vulcanization after accelerated weathering (4.4.3).	Intended Use - In the fabrication of decoy targets and as an air retaining repair material for pneumatic targets. It is a component of SC 1080-93-CL-704, Repair Equipment, Pneumatic Target.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight: Oz/Sq Yd	Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrastic Pressure High	Flame Resistance (5903)		Flexibility Cm. Max. Warp	Bursting Strength Pt. Min.	Adhesion lb/2" wide	Blocking Scale rating
								After Flame length sec. min.	Char length Max. "				
			(5041)		(5100)	(5132)	(5512)	W/F	W/F	(5204)	(5122)	5970	5872
Cloth, Coated: Butyl Coated, Toxicological Agents Protective			Min	Max	W	F	W	F	W	F	70°F	-40°F	

Type I- Cotton airplane cloth Class 1- Coated both sides	Type I: mercerized cotton airplane cloth conforming to MIL-C-5646 except that length of roll, length of cut, & compatibility with dope shall not apply and cloth shall be singed. Copper content: 0.003% max. Manganese content: 0.0015% max. Class 2 shall be mildew proofed by application of 2,2' Methylene-bis (4 chlorophenol) to effect a deposition of the inhibitor on the cloth of 1.35 ± 0.25% based on weight of treated cloth.	Composition of butyl rubber. No natural rubber, reclaimed rubber, or synthetic rubber other than butyl shall be used.	11.0 13.5	(1)	80 80 (initial) 60 60 (after weatherometer)	20 20 (initial) 120 (after strength of coat.) 120 (after cold crack)	140 (initial) 120 (after strength of coat.) 110 (after cold crack)			9		5.5	No. 2
Class 2- Coated one side		"	8.0 10.0	(1)	80 80 (initial) 60 60 (after weatherometer)	20 20 (initial) 120 (after strength of coat.) 110 (after cold crack)	140 (initial) 120 (after strength of coat.) 110 (after cold crack)			8		5.0	No. 2

(Continued)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-12189 Type I Class 1 Class 2 (Continued)	Class 1- Compound shall be applied both sides of cloth, after which cloth shall be fully vulcanized. One side shall have 65-75% of coating; the other side shall have the balance. Coated cloth shall be dusted on both sides with whitening, talc, or other finely divided mineral material which does not support mildew growth. Class 2- Compound shall be applied to one side only. Coated cloth shall then be fully vulcanized. There shall be no striking through of the coating to the uncoated side. Coated cloth shall be dusted on coated side only with whitening, talc, or other finely divided mineral material which does not support mildew growth.	Color - Base cloth: Class 2 shall match CG-107 (3). Coated cloth: Both classes shall match CG-177 (3). Colorfastness - After weatherometer and decontamination (from toxicological agents), color of coated cloth shall not be changed appreciably when compared with an unexposed specimen of the same sample. Standard sample available for shade.	(4-5) Abrasion resistance: no loose fibers shall be exposed in the abraded portion (5302). Solvent resistance: cloth shall not become stiff and brittle or soft and tacky or show other signs of improper vulcanization. Resistance to toxicological agents - minutes min.: Initial- Mustard H: Class 1-100; Class 2-30. GB: Class 1-200; Class 2-30. After weatherometer- Mustard H: Class 1-75; Class 2-4. GB: 150; 40. After decontamination- Mustard H: Class 1-75; Class 2-30. GB: Class 1-150; Class 2-30. Breaking strength after decontamination: Class 1-60 lb. min. in warp and fill. Class 2-40 lb. min. in warp and fill. Coated cloth shall be essentially odorless.	Intended Use - In the fabrication of impermeable clothing affording protection against toxicological agents. Class 2, which affords less protection against penetration of toxicological agents, is for the fabrication of items assembled with unstrapped sewed seams.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/ Sq Yd	Width Inch	Breaking Strength	Tearing Strength	Hydro- static Pressure	Flame Resistance (5903)		Flexi- bility Cm. Max. Warp	Burst- ing Strength Pt. Min.	Adhe- sion lb/2" wide	Block- ing Scale rating	
					Lb. Min.	Lb.	High	After Flame length sec	Char length Max.					
					(5100)	(5132)	(5512)	min	Max.					
(5041)					(5100)	(5132)	(5512)	W F	W F	W F	W F	70°F	-40°F	
Cloth, Coated: Butyl Coated, Toxicological Agents Protective				Min Max	W F	W F		W F	W F					

Cloth, Coated: Butyl
Coated, Toxicological
Agents Protective
MIL-C-12189, Amd. 1
(Cont'd)

Type II- Cotton sheeting

Class 1- Coated both sides Cotton sheeting conforming to Type VI, Class 2, coating quality, of CCC-C-432, except cloth shall be undyed. Composition of butyl rubber. No natural rubber, reclaimed rubber, or synthetic rubber other than butyl shall be used. 13.5 16.0 (1) 50 45 22 20 80 (initial) (initial) 60 (after weatherometer) (after strength of coat) 60 (after cold crack) 9.5 5.5 No. 2

Class 2- Coated one side Cotton sheeting conforming to Type VI, Class 2, coating quality, mildew resistant of CCC-C-432. 9.0 11.0 (1) 50 45 30 21 80 (initial) (initial) 60 (after weatherometer) (after strength of coat) 60 (after cold crack) 8.5 5.0 No. 2

Type III- Nylon twill

Class 1- Coated both sides Nylon twill conforming Type I of MIL-C-577. Cloth shall be heat set. 8.5 11.0 (1) 90 90 20 20 150 (initial) (initial) 120 (after weatherometer) (after strength of coat) 120 (after cold crack) 7.5 4.0 No. 2

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
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MIL-C-12189 (Cont'd)
Type II
Class 1
Class 2
Type III
Class 1

Class 1- Compound shall be applied to both sides of cloth, after which cloth shall be fully vulcanized. One side shall have 65-75% of coating; the other side shall have the balance. Coated cloth shall be dusted on both sides with whitening, talc, or other finely divided mineral material which does not support mildew growth. Class 2- Compound shall be applied to one side only. Coated cloth shall then be fully vulcanized. There shall be no striking through of the coating to the uncoated side. Coated cloth shall be dusted on coated side only with whitening, talc, or other finely divided mineral material which does not support mildew growth.

Color - Base cloth: Type II, Class 1 & Type III shall be undyed. Type II, Class 2 shall be dyed to match CG-107 (3). Coated cloth: All types and classes shall match OD-177 (3). Standard sample available. Colorfastness: After weatherometer and decontamination (from toxicological agents), coated cloth shall not be changed in color when compared to an unexposed specimen of the same sample.

(4-5)
Abrasion resistance: no loose fibers shall be exposed in the abraded portion (5302). Solvent resistance: cloth shall not become stiff and brittle or soft and tacky or show other signs of improper vulcanization. Resistance to toxicological agents- minutes min.: Initial- Mustard H: Type II, Class 1- 100; Class 2- 30; Type III- 100. GB: Type II, Class 1- 209; Class 2- 30; Type III- 200. After weatherometer- Mustard H: Type II, Class 1- 75; Class 2- 30; Type III- 75. GB: Type II, Class 1- 150; Class 2- 30; Type III- 150. After decontamination- Mustard H: Type II, Class 1- 75; Class 2- 30; Type III- 75. GB: Type II, Class 1- 150; Class 2- 30; Type III- 150. Coated cloth shall be essentially colorless.

Intended Use - In the fabrication of impermeable clothing affording protection against toxicological agents. Types II and III are alternate cloths for use when Type I cloth is not available. Class 2, which affords less protection against penetration of toxicological agents, is for the fabrication of items assembled with unstrapped sewed seams.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz / Sq Yd	Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High	Flame Resistance (5903)		Flexibility Cm. Max. Warp	Bursting Strength Pts. Min.	Adhesion lb/2" wide	Blocking Scale rating
								After Flame sec min	Char length Max"				
			(5041)		(5100)	(5132)	(5512)			(5204)	(5122)	(5970)	(5872)
Cloth: Coated, Butyl Rubber			Min	Max	W	F	W	F	W	F	W	F	70°F-40°F
MIL-C-13621 (CmlC) Single ply, uniform Butyl rubber			-	3.2	10	10	150	150	No				
evenly woven silk or nylon.			(exclusive of weight of talc)		(initial)	(initial)	leakage						
					7	7	100	100	up to				
					(after acc. aging)	(after acc. aging)	20 psi.						
					10	10	150	150					
					(after decontamination)								

Cloth, Cotton, Laminated, Waterproof and Gasoline and Grease-Resistant

MIL-C-13625 (ORD)	One layer - 48 in. No. 8 cotton duck conforming to Type I of CCC-D-171. One layer cotton sheeting conforming to Class A of CCC-S-291.	Synthetic rubber adhesive compound having no adverse effect on cotton.	28.5	30.0	47	(5102)	(5136)	(a)					
					min.		40	40	No	see table in spec.			
					(i.e. 48" greige with 1% shrink. in treatment)				leakage up to 100 psi				

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-13621	Same amount of compound shall be applied to both sides of base cloth. Surface of coated cloth shall be smooth, uniform, and free of breaks, blisters, wrinkles, holes, torn selvage or damage.	Color (1).	Thickness: 0.003 - 0.005 in. Liquid mustard resistance: Initial- 10 min.; after acc. aging- 10 min. (min.); after decontamination- 10 min. (min.) Coated cloth shall be essentially odorless. Coated cloth shall not be tacky before or after aging and decontamination. Resistance to other vesicant agents: (1).	Intended Use - As a diaphragm material in optical gas mask diaphragm angle tubes.

MIL-C-13625	Adhesive shall be applied at min. rate of 1 lb./sq yd of laminated cloth. Amount of talc to be in excess of min. shall not cause max. permissible weight of finished laminated cloth to be exceeded. Cloth shall be treated for mildew resistance by Type II process of Spec. AXC-147.	Color - Color of finished laminated cloth shall be Olive Drab No. 1. Color shall be imparted by dyeing gray cloth with talc as in accordance with Type I process (solid color) of MIL-P-304.	(a) water permeability: After high temperature exposure- no leakage up to 90 psi (4.4. R. 2). After soaking in gasoline: no leakage up to 90 psi (4.4. R. 3). Resistance to grease: adhesive strength shall be 1 lb. min. (4.4. 9). Mildew resistance (4.4. 10).	Intended Use - In fabricating envelopes and covers for protection of ordnance material in under-water fording and landing operations.
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COATED CLOTHS

NOMENCLATURE	Sate Cloth Specifications	Type of Coating Compound	Overall Weight	Width	Breaking Strength	Tearing Strength	Hydro-static Pressure	Flame Resistance (5903)		Flexi-bility	Burst-ing	Adhe-sion	Block-ing
			Oz / Sq Yd	Inch	Lb. Min.	Lb.	High	After	Char	Cm. Max.	Strength	lb/2"	Scale
			(5041)		(5100)	(5132)	(5512)	Flame	Length	Warp	(5204)	(5122)	(5970)
Label; For Clothing, Equipment, and Tentage, (General Use)			Min Max		W F	W F		W F	W F	70°F 40°F			

Types:

I- Label, cloth, cotton, print, cotton, permanent bleached white. coated, printed Yarns/Inch: 80 in the warp; 72 in the fill.

Synthetic rubber or resin. Pigmented. 3.6 4.8 (Same as Type II)

No. 2

II- Label, cloth cotton, permanent coated, mildew resistant treated, printed.

Same as Type I. Shall also be mildew resistant treated with 1.35 + 0.25% 2,2' met-hylene bis (4-chlorophenol) by weight, applied either to base cloth or coating or both.

Synthetic rubber or resin. Pigmented. 3.6 4.8

A 10% + tolerance over the max. wgt. will be allowed for the Type I or II, Classes 3, 7 and 11 labels, because of the additional coating or impregnating required after printing.

No. 2

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
DDD-L-20c Type I Type II	Types I & II shall be impregnated or surface coated. Printed surface of Classes 3 & 7 instruction labels & Class 11 identification label shall be impregnated or surface coated with the finishing compound after printing. Following materials shall not be used in the coating or impregnating formulations: Thermo-plastic polyvinyl butyral resin, proteins and their derivatives, starch, hydrophilic oils and resins, rosin, sulfur compounds. Finished labels shall be free from objectionable odor and shall have a relatively smooth surface.	Color - Color of finished labels shall be bleached white. Colorfastness - See spec. for colorfastness of printing requirements.	Unless otherwise specified, the labels and markings shall be equal to the standard sample in respect to legibility, quality or printing, durability of finish, and, where applicable, in the ability to accept writing. Labels shall be printed with a black marking medium. The initial printing shall be legible and shall not show off-setting, smearing, or bleeding. All classes of labels shall be printed with Gothic, sans-serif type. Italic or script type shall not be used. All printing shall be in capitals except instruction labels as specified in spec. See spec. for contents, size of characters of inscription, and format of labels.	Intended Use - In items of clothing, tentage, equipment, and related items as specified for the applicable class.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength		Tearing Strength		Hydrostatic Pressure		Flame Resistance (5903)		Flexibility Cn. Max. Warp	Bursting Strength Pts. Min.	Adhesion lb/2" wide	Blocking Scale rating
			Oz / Sq Yd			Lb. Min.	Lb.	High	High	After Flame sec min	Char Flame length Max"	(5512)	(5204)				
			Min	Max		W	F	W	F	W	F	W	F	70°F	40°F		
Cloth, Coated, Nylon, Polyvinyl Butyral MIL-C-14366B			-	3.5	(1)	50	50	30	30	40				6	7		No. 2
Warp yarn: semidull 40x2 denier, 13 filament nylon. 6-8 turns "Z". Filling yarn: bright, 70x3 denier, 32-34 filament nylon. 2-3 turns "Z". Use of relaxed filling yarn is mandatory to minimize pirm taper barre. Weave: 2/1 right twill. Each selvage shall have 3/4" ends, weaving 2 as 1. Weight: 1.5±0.1 oz/sq yd. Yarns/in.: 116 in the warp; 76 in the fill. Breaking strength: 50 lb. min. in the warp and fill. Shrinkage: 2% max. in the warp; 1% max. in the fill. Heat set prior to dyeing. Dyed with special nylon dyes or other dyes that will show no more striation in finished coated cloth than standard sample. (6) pH: 5.0 - 8.5			Thermosetting virgin polyvinyl butyral, plasticized with phosphate or phthalate ester plasticizers exclusively. Pigmented.			All selvages shall be trimmed from coated cloth.			(initial) 20 (after strength of coating) 30 (after water immersion) 30 (after low temp resistance) Pass (after abrasion resistance)			(initial) 4 (after water immersion)					

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-14366B	Coated on reverse side of cloth only, then thermoset. There shall be no strike through of coating to face of cloth. Coated side shall have uniform finish and be dusted with powdered mica not coarser than 160 mesh. Reverse side of cloth shall be the side with twill line running from right to left.	Color - Base cloth: Color shall be such that after coating, finished coated cloth shall match standard shade sample on the uncoated side (shade Taupe 179 or Blue 1157, as specified)(3). Coated cloth: face side shall match standard sample in luster and color (Taupe shade 179 or Blue shade 1157, as specified)(3). Colorfastness - standard sample available (5660-5614).	(4-5) Water wicking: 1/4 in. max. (4.4.10).	Intended Use - In the manufacture of the Raincoat, Men's Lightweight, Taupe 179 and Blue 1157.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yr.		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			(5041)	(5100)		(5132)	After Flame length sec. min.		Char length in. max.					
Cloth, Coated, Polychloroprene: (For Pneumatic Floating Equipment) MIL-C-14505B			Min	Max		W/F	W/F		W/F	W/F	70°F	40°F		
						(5134)	Coating Thickness (mils min.)		Permeability L/sq M/24 hours				W	F
							Side A	Side B	(max)					
Class 3- Single ply cloth 11.5 oz	High tenacity, improved heat & light resistant, heat set and scoured nylon cloth. Cloth shall be impregnated with a primer prior to coating to insure the adhesive bond to coating compound. See spec. for detailed base cloth requirements.	Compound shall contain not less than 60% by volume of chloroprene. Compound shall contain no materials injurious to nylon, which will result in a waxy finish, or which are water-soluble. See spec. for detailed coating compound requirements.	-	11.5	153 135 (initial) 85% 85% (after oven aging) 85% 85% (after acc. weathering)	8 8		3.3	3.3	-			8 8 (initial) 60% 60% (after water resistance)	
Class 4- Single ply cloth 31.0 oz			-	31.0	350 335 (initial) 85% 85% (after oven aging) 85% 85% (after acc. weathering)	30 30	6.0	6.0	3.0		20 20 (initial) 60% 60% (after water resistance)			
Class 6- Single ply cloth 44.0 oz	"	"	-	44.0	400 400 (initial) 85% 85% (after oven aging) 85% 85% (after acc. weathering)	50 50	10.0	10.0	2.0		40 40 (initial) 60% 60% (after water resistance)			
(Continued)														

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-14505B Class 3 Class 4 Class 6 (Continued)	Primed nylon cloth shall be coated. Thickness of coating is exclusive of thickness of primer. Coating shall be applied by either the spreader or the calender process. Cloth shall be vulcanized during fabrication of pneumatic floating equipment.	Color - Base cloth shall be unbleached. Coated cloth: compatible coloring agent shall be added to coating compound to make finished color Black.	No cracking or flaking at low temperatures (5874). Porosity: Classes 4 and 6- no leaks (ASTM D751, method B).	Intended Use - In the fabrication of pneumatic flotation equipment.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width	Breaking Strength	Tearing Strength	Hydrostatic Pressure	Flame Resistance (5903)		Flexibility	Bursting Strength	Adhesion	Blocking	
			Oz / Sq Yd	Inch	Lb. Min.	Lb.	High	After Flame	Char length	Cm. Max.	Min	lb/2" wide	Scale rating	
			(5041)		(5100)	(5132)	(5512)	sec min	Max"	(5204)	(5122)	(5970)	(5872)	
Cloth, Coated, Polychloroprene: (For Pneumatic Floating Equipment)			Min	Max	W	F	W	F	W	F	70°F	-40°F		
MIL-C-14505B (Cont'd)														
Class 7- Single ply cloth 60.0 oz	See p. 154 for base cloth requirements.	See p. 154 for coating compound requirements.	-	60.0	650 650		70 70	11.0	11.0	3.0	10 10	60% 60%	(initial)	
					(initial)									
					85% 85%									
					(after oven aging)									
					85% 85%									
Class 10- Pile cloth 40.5 oz.			-	40.5	100 150		7 10	11.0	11.0	3.0	10 10	60% 60%	(initial)	
					(initial)									
					85% 85%									
					(after oxygen bomb aging)									
Class 11- Single ply cloth 14.0 oz			-	14.0	225 180		8 8	3.5	3.5	2.0	12 12	60% 60%	(initial)	
					(initial)									
					85% 85%									
					(after oven aging)									
					85% 85%									

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width	Breaking Strength	Tearing Strength	Hydrostatic Pressure	Flame Resistance (5903)		Flexibility	Bursting Strength	Adhesion	Blocking
			Oz/Sq Yd	Inch	Lb. Min.	Lb.	High	After Flame	Char Length	Cm. Max.	Pts. Min.	lb/2" wide	Scale rating
			(5041)		(5100)	(5132)	(5512)			(5204)	(5122)	5970	5872
Type, Coated-Cloth, Polychloroprene			Min	Max	W	F	W	F	W	F	70°F	40°F	
MIL-T-14517 (CE) Balloon cloth confor- Polychloroprene			6.22	6.88	1-								

Tape, Coated-Cloth,
Polychloroprene

MIL-T-14517 (CE)

Balloon cloth conforming to MIL-C-12318 Type III. Cloth shall be mildew resistant. Fungitoxic compound shall be compatible with cloth and coating. No copper fungitoxic compound shall be used.

Polychloroprene spread compound & uncured polychloroprene compounds shall contain not less than 60% (by volume) of chloroprene. They shall be compatible.

Uncured compound shall be compounded to vulcanize or cure by migration of accelerator from polychloroprene cement conforming to MIL-C-5540, Type II. Spread compound shall have min. tensile strength of 1600 psi and min. ultimate elongation of 300%. Loss of tensile strength shall not exceed 10% after acc. aging & after acc. weathering.

6.22 6.88 1-5/8

1b/1"

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-T-14517	Balloon cloth shall be spread coated with polychloroprene spread compound on both sides then cured. One side shall then be spread coated with uncured polychloroprene compound. Not less than 3 spreader coats/oz/sq yd of polychloroprene compound shall be applied. A binder coat may be included between the cured & uncured coats of polychloroprene compound. Curing with soapstone shall not be permitted. Tape shall not be overcured.		Tape shall be rolled with an interliner of holland cloth to prevent adhesion between cured & uncured polychloroprene surfaces. Ingredients such as soapstone, talc, paraffin, or similar materials which will immediately or latently affect the strength and adhesion of the tape shall not be imbedded in the surface of the balloon cloth.	Intended Use - In the seams of air-retaining cloth conforming to MIL-C-11390. Tape is cured by activation with a neoprene cement conforming to Type II of MIL-C-5540.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz / Sq Yd		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High	Flame Resistance (5903)		Flexibility Cm. Max. Warp	Bursting Strength Pts. Min.	Adhesion lb/2" wide	Blocking Score
			(5041)	(5041)		(5100)	(5132)	(5512)	After Flame sec. Min.	Char Flame length Max"		(5122)	(5970)	(5872)
<u>Cloth, Coated, Fire Resistant, Berth and Bedding Cover</u>			Min	Max		W	F	W	F	W	F	70°F	40°F	
MIL-C-15104C (SHIPS) Amd. 1														
Type I-Submarine berths	Flame and mildew resistant cotton.	Noninflammable. Shall render finished cloth soft & pliable, shall be nonirritating to the skin, and shall not produce toxic products of combustion.	24	26	54	140	120	No leakage	2	2	3	3	4	No. 2
					54	75%	75%	up to 100 psi	2	2	3	3		
						(initial)	(after aging)							

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-15104C Type I Type II	Texture of Type I to equal that of standard sample. Texture shall be like that of smooth finished, top grain upholstery leather.	Color - Type I: Light Green equal to standard sample. Type II: Coating shall be Green 14062 of Fed. Std. No. 595.	Coating shall not crack at low temperatures (4.4.4). Coating shall not be visibly affected by salt water (4.4.5). Cloth shall show no discoloration or embrittlement in light aging (5660). Mildew resistance: after water extraction and scrubbing, there shall be no mildew growth. Breaking strength shall not decrease more than 15%. There shall be no evidence of blooming, mottling, or discoloration after heat aging. Volatility: loss of weight of coated cloth not to exceed 8%. Plasticizer extraction not to exceed 10% of weight of coated cloth. Flexibility: Type I - soft and pliable for handling and sewing. Shall not crack after heat & light. Type II: Coating shall not crack down to base cloth (4.4.1). Type I: Abrasion resistance - pattern of coating shall not be obliterated after 5000 double rubs. Abraded specimen shall show no leakage. Resistance to gasoline and oil.	Intended Use - For submarine bunk covers and bedding covers.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd	Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High	Flame Resistance (5903)		Flexibility Cm. Max. Warp	Bursting Strength Pth Min.	Adhesion lb/2" wide	Blocking Scale rating
								After Flame sec min	Char length Max"				
			(5041)		(5100)	(5132)	(5512)	W F	W F	(5204)	(5122)	5970	5872
Cloth, Coated, and Webbing, Inflatable Boat and Miscellaneous Use			Min Max		W F	W F		W F	W F	70°F 40°F			

Type I- 5.0 oz.	High tenacity, improved heat & light resistant nylon. Heat set and cured. Breaking strength: warp-40; fill-40. Weight: 1.00 oz. (max). pH: 5 - 8.	Synthetic rubber: 60-75% polymerized chloroprene. Tensile strength: 1800 psi (min.) Elongation: 500% min. No materials which would result in a waxy finish or be water soluble shall be used. After being cured and exposed to acc.	4.7 5.6 (1) 50 50 (5134)					Permeability (L. max.)	(min.)				
Type II													
Class A- 8.5 oz.	Nylon (see above). Weight: 2.5 oz max.	and exposed to acc. light shall retain min. 75% tensile strength.	8.0 9.0 (1)				100				5	No. 2	
Class B- 6.8 oz.	Breaking strength: W-150; F-140.		6.3 7.8 (1)	180 165	8 8		100				5	No. 2	
Class C-20.5 oz.			19 22 (1)				100				5	No. 2	
Type III- 7.6 oz.	Cotton. Singed. Weight: 2.10 oz. max. Breaking strength: warp & fill: 40. pH: 6.5 - 7.6.		7.2 8.0 (1)				100				5	No. 2	
Type IV													
Class A-15.0 oz.	Cotton. Singed. Weight: 4.5 oz max. Breaking strength: W & F: 80. pH: 6.5 - 7.6.	Natural rubber. 78% (by volume) min. new plantation rubber. See physical & material requirements of synthetic.	14.0 15.0 (1)					11.8			5	No. 2	
Class B-10.0 oz	"	Synthetic.	9.5 10.5 (1)					11.8			5	No. 2	

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-17415E Type I Type II Class A Class B Class C Type III Type IV Class A Class B (Continued)	Base cloth may be treated before coating with an adhesive compound or a dip treatment to insure adhesion of coating compound if desired. Coatings shall be applied by spreader or calender processes.	Color - Base cloth shall be unbleached. Coated cloth: unless otherwise specified, color shall be that which naturally evolves as a result of compounding ingredients. Type II, Class B color shall be Sea Rescue Orange or a close match.	Coating shall show no signs of becoming stiff & brittle or soft and tacky after accelerated aging. Loss in tensile strength shall not exceed 15% for cloths coated with natural rubber of 10% for cloths coated with synthetic rubber (5852). Synthetic rubber coating shall not crack when bent after accelerated weathering (see spec. for table of loss of tensile strength (5804). Cloth shall not crack at low temperatures (5874).	Intended Use - In finished inflatable boats and accessories.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width	Breaking Strength	Tearing Strength	Hydrostatic Pressure	Flame Resistance (5903)		Flexibility	Bursting Strength	Adhesion	Blocking
			Oz / Sq Yd	Inch	Lb. Min.	Lb.	High	After Flame	Char Length	Cm. Max.	Warp	Pts. Min.	Lb/2" wide
			(5041)		(5100)	(5132)	(5512)			(5204)	(5122)	5470	5872
			Min Max		W F	W F		W F	W F	70°F 40°F			
Cloth, Coated, and Webbing, Inflatable Boat and Miscellaneous													

MIL-C-17415E (SHIPS)

Amd. 1

Type V- 23.4 oz.	Nylon (see p. 158). Weight: 5.4 oz max. Breaking strength: Warp & Fill: 300.	Synthetic (see p. 158).	22.2	24.6	(1)	360	360	(5134) 25	25	100	Permeability (L. max.)		min. 15	No. 2
Type VI-21.5 oz.	Nylon: 2 nylon cloths joined 2 1/2-3" apart by 30 pile yarns/in" min. W: 2-ply, 70 den. F: singles, 210 den. Pile W: 2-ply, 70 den. or singles, 210 den. Weight: 8.50 oz max.	"	18.5	20.5	(1)	110	180	7	13		2.0		8	No. 2
Type VII														
Class A- 30.0 oz	Cotton (see p. 158). Weight: 7.50. Break-	Natural (see p. 158).	28.5	31.5	(1)	165	160	4	4		2.0		10	No. 2
Class B- 32.0 oz	ing strength: 150- W: 145- F.	Synthetic (see p. 158).	28.5	35.0	(1)	165	160	4	4		2.0		15	No. 2
Type VIII														
Class A- 6.5 oz.	Nylon (see Type I) (see p. 158).	Natural	6.2	6.8	(1)						11.8		5	No. 2
Class B- 6.5 oz.	Nylon (see Type I) (see p. 158).	Synthetic	6.2	6.8	(1)						11.8		5	No. 2

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
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MIL-C-17415E

Type V

Type VI

Type VII

Class A

Class B

Type VII

Class A

Class B

(Cont'd)

See page 158 for additional information.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			(5041)	(5041)		(5100)	(5100)	(5132)	(5132)		After Flame sec min	Char Length Max"				
Cloth, Coated, and Webbing, Inflatable Boat and Miscellaneous Use (Continued)			Min	Max		W	F	W	F		W	F	W	F	70°F	40°F
MIL-C-17415E (SHIPS) Am. 1										(5134)						
Type IX											Permeability (L. max.)				(min.)	
Class A- 30.4 oz Nylon (see Type V)			Synthetic (see p. 158.)	28.5	31.5	(1)	360	360	21	21		2.0			12	No. 2
Class B- 33.4 oz "			Natural (see p. 158.)	30.0	34.0	(1)	360	360	15	15		2.0			8	No. 2
Type X- 31.5 oz Nylon (see Type VI)			Synthetic (see p. 158.)	27.8	30.8	(1)						2.0			8	No. 2
Type XI- 35.5 oz "			"	31.8	35.2	(1)						2.0			8	No. 2
Type XII-45.1 oz Nylon (pile cloth): 2 nylon cloths joined 2-2 1/2" apart by 30 pile yarns/in ² min. See Type VI for ply & denier. Wgt: 8.20.			"	42.0	46.0	(1)						2.0			8	No. 2
Type XIII-12.1 oz Nylon (see p. 158) Weight: 3.10. Breaking strength: 195 in warp & fill.			"	11.5	12.7	(1)	225	225	12	12		11.8			8	No. 2

Permeability (L. max.)

(min.)

2.0

12 No. 2

2.0

8 No. 2

2.0

8 No. 2

2.0

8 No. 2

2.0

8 No. 2

11.8

8 No. 2

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-17415E				
Type IX	See page 158 for additional information.			
Class A				
Class B				
Type X				
Type XI				
Type XII				
Type XIII				

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High	Flame Resistance (5903)		Flexibility	Bursting Strength	Adhesion	Blocking
					Lb. Min. (5100)	Lb. (5132)	(5512)	After Flame	Char Length	Warp	Pts. (5222)	lb/2" wide (5970)	Scale rating (5972)
			Min Max		W F	W F		W F	W F	70°F	40°F		

Cloth, Coated, and Webbing Inflatable Boat and Miscellaneous Use (Continued)

MIL-C-17415E (SHIPS) Amd. 1

Type XIV- 45.3 oz Nylon (see p. 158). Synthetic Weight: 13.3 oz max. (see p. 158). Breaking strength: 600 in warp & fill.		43.3	47.3	(1)	600	600	(5134)	60	60	(L. max.) 2.0	(min.) 12	No. 2	
Type XV- Webbing, Nylon webbing. To conform to MIL-W-17337, except that it shall be undyed. Weight: 2.2 oz/lin yd. max. Breaking strength: (full width)- 3000 lb.		Synthetic (see p. 158). Friction or spread coated to protect against sunlight aging and provide a base for cement.			3	3000	(full width)						No. 2
Type XVI Class A- 24.5 oz Nylon (see p. 158). Weight: 4.8 oz max.		22.0	27.0	(1)	300	300	16	16	2.0	16			No. 2
Class B- 24.5 oz "		22.0	27.0	(1)	300	300	16	16	2.0	8			No. 2
Type XVII- 40.5 oz Nylon (see p. 158). Weight: 8.5 oz max. Breaking strength: 400 in warp & fill.		38.0	42.0	(1)	400	400	25	25	2.0	16			No. 2

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, shrinkage, etc.)	NOTES (Not Specification Requirements)
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MIL-C-17415E (Cont'd)
Type XIV

See page 158 for additional information.

Type XV

Webbing shall be friction or spread coated to protect against sunlight aging and to provide a base for cement. Coating shall be no less than 1 mil. thick. Color - Base cloth shall be undyed. Coated cloth: see p. 158.

Type XVI

See page 158 for additional information.

Class A

Class B

Type XVII

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width	Breaking Strength	Tearing Strength	Hydrostatic Pressure	Flame Resistance (5903)		Flexibility	Bursting Strength	Adhesion	Blocking
			Oz / Sq Yd	Inch	Lb. Min.	Lb.	High	After Flame	Char Length	Cm. Max.	Pts. Min.	lb/2" wide	Scale Rating
			(5041)		(5100)	(5132)	(5512)	sec min	Max"	(5204)	(5122)	(5970)	(5872)
			Min Max		W F	W F		W F	W F	70°F 40°F			
Cloth, Coated; and Tape, Coated Cloth-Chloroprene on Nylon,													

Cloth, Coated; and Tape, Coated Cloth-Chloroprene on Nylon, Pneumatic Life Preserver MIL-C-19002B, Am. 2

Type I- Coated cloth (one side)	Nylon twill conforming to MIL-C-19377 (Aer). For flagging of defects a single thread shall be used that will not increase thickness of cloth in order to maintain uniformity of coating on spreading machine. Marking shall be such that it is visible after coating. Tape shall be cut in bias direction.	At least 60% polychloroprene. Remainder of compound shall be softeners, curing agents, antioxidants, and reinforcing materials. Pigmented. Compound shall be compatible with base cloth and contain no waxes or other ingredients that may bloom to the surface to adversely affect coating adhesion and cement-ability of finished cloth. Compound shall be water insoluble after curing. See spec. for table of physical properties of cured compound.	7.0	7.7	(1)	180	170							10 (lb/in)	No. 2
Type II- Coated cloth tape (both sides)			13.3	15.8	(1)	180	170							10 (lb/in)	No. 2
Type III- Coated cloth tape (one side - uncured)			9.3	11.5	1	180	170							10 (lb/in)	No. 2
Type IV- Coated cloth tape (both sides - uncured)			15.6	19.6	1	180	170							10 (lb/in)	No. 2

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-19002B Type I Type II Type III	After application of foundation coat compatible with base cloth and compound to produce adhesion, cloth shall be coated by a spread coat operation. No strike through to uncoated side shall be permitted. Tapes: Types II & IV shall be coated on both sides & Type III shall be coated on one side. One side of Type II, the coated side of Type III, and both sides of Type IV shall have a surface coating of high polychloroprene content stock which may be uncured or partially cured (1). Shall be compatible with cured coated cloth and shall be protected by a suitable liner which may be separated without affecting adhesion and cement-ability of tape. Coated cloth shall be cured. Cured coating may be lightly dusted with talc or zinc stearate.	Color - Base cloth: base cloth for life preserver shall be dyed. Base cloth for Types II & IV tapes shall be dyed or undyed as specified. Coated cloth: coating shall be suitably pigmented during compounding process so that cured coating and base cloth shall have a uniform color.	(4) Material for acceptance shall have been manufactured no more than 4 weeks before release for shipment. Coating shall not become stiff or brittle or soft and tacky after accelerated aging. Breaking strength shall be no less than 160 lb. in the warp and 155 lb. in the fill. Elongation shall be a min. of 22% (5850 and 5852). After accelerated weathering, breaking strength shall not be less than 155 in the fill and 160 in the warp, and min. elongation shall be 22% (5104). Permeability of coated cloth to hydrogen shall not exceed 5 L/M ² in 24 hours or its equivalent using helium. Cloth shall show no signs of air leakage at a pressure of 10 lb/in ² for 5 min. (4.4, 5.13). Cloth shall not crack when folded on itself after low temp. (5874).	Intended Use - In the manufacture of components of pneumatic life preservers.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz / Sq Yd	Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydro- static Pressure High	Flame Resistance (5903)	Flexi- bility Cm. Max. Warp	Burst- ing Strength Pth. Min.	Adhe- sion lb/2" wide	Block- ing Soda rating
								After Flame length sec min				
			Min	Max	W F		W F	W F	W F	70°F 40°F		
Cloth, Coated (For Aircraft Protectors)					(5102)	(5134)	(5514)	(5910)				
MIL-C-19524 (AER)												
Amcl. 2			Base cloth shall have fiber, weave and construction appropriate to coated cloth requirements.	Suitably compound- ed polymer or co- polymer ethylene resins.	4.0 9.0	36 ±	65 65	15 15	16 hours	1/2 min. (min) to consume	200	

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-19524	Coating shall be applied to both surfaces.	Color (1).	Cloth shall be nonirritating to skin. Odor shall not be obnoxious. Strength across seam shall be not less than 75 lb. Coating shall not separate from base cloth, flake, delaminate, or form bubbles or craters (4.5.4). Ice-repellent properties (4.5.5). Mildew resistance: cloth shall not lose more than 10% of breaking strength (4.5.6). After exposure to lubricating oil and hydraulic fluids, cloth shall show no loss of water resistance, nor more than 10% loss of breaking strength (4.5.7). After exposure to ultra-violet radiation, cloth shall not lose more than 25% of breaking strength, shall show no embrittlement, delamination or other defects, and shall not cause deleterious effects to painted surfaces. Cloth shall not crack, delaminate, or develop pinholes at low temps. (4.5.9) or rupture or tear (4.5.10). Cloth shall separate readily and not rupture or delaminate at high temp. (4.5.11). No embrittlement, delamination, lessening of ice-repellent properties or other defects after acc. aging (4.5.12).	Intended Use: - In the manufacture of protectors (covers) to be used to cover aircraft parts (wings, tail groups, helicopter rotor parts, etc.) in a standby condition, which are exposed to adverse weather conditions of ice, snow, frost, etc.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width	Breaking Strength	Tearing Strength	Hydrostatic Pressure	Flame Resistance	Flexibility	Seal	Adhesion	Blocking
			Oz/Sq Yd	Inch	Lb. Min.	Lb.	High	(5803)	Min. Max.	Warp	1/2" wide	Scale rating
			(5041)		(5100)	(5132)	(5512)	After Char Flame length	Min. Max.	(5204)	(5122)	(5970) (5872)
			Min Max		W F	W F		W F	W F	70°F	40°F	

Cloth, Coated; Non-Slip Table Covering
MIL-C-19635 (CG)
Amd. 1

Osnaburg, plain weave. Yards/inch: 32 in the warp; 24 in the fill.

Chemically-blown sponge rubber of natural or synthetic rubber or a compound thereof. Neoprene coating .005 - .010 in thickness. 3-coat application is normally needed to achieve thickness. Rubber shall be of a soft, flame resistant quality, with an adhesive rid or surface, homogeneous in character and free from any defect which may affect its appearance or impair its serviceability.

1.06 1.09 (lb/yd)

25 25

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-19635	Undersurface shall consist of a layer of sponge rubber. One fold of cloth shall be firmly imbedded & keyed to rubber layer, but shall not show through at any point. Exposed side of cloth backing shall be finished with neoprene coating to form the upper surface of the cloth. Neoprene coating shall permit the imprint of the backing cloth to show and produce a somewhat rough, slip-resistant effect. Neoprene surface shall be non-porous and shall have a continuous skin free from blow holes. It shall be sufficiently non-slip to hold tablewear in place at an angle of 35°. Rubber under side shall be capable of adhering to the surface of a table without the use of clips, etc., at a 35° angle. Neoprene surface shall be capable of being cleaned with soap, water & bristle brush of stains of coffee, ketchup, egg, butter, and other commonly used foods.	Color - Upper surface: unless otherwise specified, neoprene coated upper surface shall be Green to match Color No. 14260 of Fed. Std. No. 595. Under surface: unless otherwise specified, color of sponge rubber under surface may be at the option of the manufacturer.	Rubber shall be free from objectionable odor under ordinary service conditions. Cloth shall not become sticky or crack when bent back on itself after aging. Cloth shall be flame resistant. Cloth shall be capable of being rolled or folded for storage without cracking or delamination. Table covering shall show no evidence of separation into distinct layers or laminations when subjected to ordinary usage.	Intended Use - To be placed directly on standard mess tables during rough weather, to retain dishes and miscellaneous tablewear in place without the use of fiddle boards. It is not intended to be used as a matting underlay for other types of table covers used in normal weather.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High	Flame Resistance (5903)		Flex- ibility Cm. Max. Warp	Burst- ing Strength P.S.I. Min.	Adhe- sion lb/2" wide	Block- ing Score	
			Oz./ Sq Yd		Lb. Min.	Lb.		After Flame Length Sec. Min.	Char Length Max.					
			(5041)		(5100)	(5132)	(5512)				(5204)	(5122)	(5970)	(5972)
Cloth, Coated (Nylon Taffeta)			Min Max		W F	W F		W F	W F	70°F 40°F				
MIL-C-19699A (SA)														

Cloth, Coated
(Nylon Taffeta)
MIL-C-19699A (SA)
Amd. 1

Cloth, nylon, taffeta (2.0 oz.) conforming to MIL-C-21852.

Properly plasticized chloroprene rubber, free from objectionable odor.

4.7 ± 0.5

(1)

110 95

850 650

80

(grams)

(initial)

2.5

8.0

10

See spec. for requirements after testing.

Cloth, Coated
(Nylon Twill, Low Count)
MIL-C-19759A (SA)

Type I- 7.5 oz. coated one side

Cloth, nylon twill low count 3.5 oz., conforming to MIL-C-19256. Face shall be identified by twill line running from lower left to upper right.

Properly plasticized chloroprene rubber. Pigmented. Non-toxic, non-irritant and free from objectionable odor.

7.5 ± 0.5

(1)

225 210

4500 3800

100

(grams)

(initial)

9.0

25.0

10

See spec. for requirements after testing.

Type II- 9.0 oz. coated both sides

9.0 ± 0.5

(1)

225 210

3400 3000

100

(grams)

(initial)

14.0

35.0

10

See spec. for requirements after testing.

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-19699A		Color - Coating shall be pigmented Black. Standard sample available.	(4) Coated cloth shall show no tackiness, exudation, or loss of flexibility at high temps. (585°). Cloth shall be free from objectionable odor.	Intended Use - In the manufacture of special purpose clothing worn by Navy personnel.

MIL-C-19759A
Type I
Type II

Coated cloth shall be flexible, free from tackiness, and resistant to abrasion and scratching. Type I shall be coated on back only with app. 4.0 oz. of compound. Type II shall be coated on back with app. 4.0 oz. of compound, and on the face with app. 1.5 oz. of coating.

Color - Type I: coating shall be pigmented Black. There shall be no change in shade on the face of the cloth. Type II: Coating of back shall be pigmented Green to approximate shade of basic cloth. Standard samples available for both types.

Intended Use - Type I: in the fabrication on special cold weather clothing items. Type II: in the fabrication of the submarine deck exposure suit and wet weather clothing items.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High	Flame Resistance (5903)		Flexibility Cm. Max. Warp	Bursting Strength Lb./Sq. In.	Adhesion lb/2" wide	Blocking Scale rating
			(5041)	(5042)		(5100)	(5132)	(5512)	After Flame	Char Length				
Cloth, Coated, Nylon, Waterproof MIL-C-20696A, Amd. 2			Min	Max		W	F	W	F	W	F	70°F	-40°F	

Type I- Nylon, 2.3 oz (nominal) uncoated.

Class 1- Base cloth coated with chloroprene. Bright high tenacity filament nylon. Plain weave. Weight: 2.3 ± 0.2 oz. Yarns/Inch: 38 in warp and fill. Breaking strength: 115 lb. in warp and fill. Chloroprene rubber. Up to 20% other elastomers (such as SBR) may be added. (5102) (5134) min. (initial) or 80% 80% (1)(after weatherometer) 7-10 12 10 No. 3

Class 2- Base cloth coated with vinyl chloride polymer or copolymer. Virgin polymer or copolymer of vinyl chloride resin. 8.0 10.0 39 120 100 12 10 min. (initial) or 80% 80% (1)(after weatherometer) 7-10 13 10 No. 3 (-10°F)

Class 3- Base cloth coated with chloroprene containing fire retardant. Chloroprene rubber containing an evenly dispersed fire inhibitor. Up to 20% other elastomers (such as SBR) may be added. 9.5 11.5 39 120 100 12 10 min. (initial) or 80% 80% (1)(after weatherometer) 10 10 3.5 7-10 12 10 No. 3 (-40°F) (each)

(Continued)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-20696A Type I Class 1 Class 2 Class 3 (Continued)	Coating shall be applied to both sides of base cloth. Face side shall receive a heavier coating than back, except for Type II, Class 2, which may have a balanced or unbalanced coating as specified. Classes 1 and 3 coated cloths shall be fully vulcanized and dusted with whiting, talc, or other finely divided mineral material which does not support mildew growth. Plasticizers for Class 2 shall be limited to phosphate and phthalate esters exclusively.	Color - Coated cloth shall match applicable cable color number of Fed. Std. No. 595 or approved color standard for color specified (3). Colorfastness - no change after acc. weathering (3.4.5).	(4-5). Types I & II, Class 1 & 3: shall not become stiff or brittle or soft or tacky after acc. aging (5852). Hydrostatic resistance: no leakage before or after abrasion (5516 & 4.4.2.1). Oil resistance: no seepage (4.4.3). Resistance to aromatic hydrocarbons: no cracking (4.4.4). Cloth shall show no cracking or crazing when folded sharply on itself after acc. weathering. Folded cloth shall show no signs of blooming or chalking (3.4.5). Selvages may be trimmed after coating.	Intended Use - In the fabrication of wing covers, engine covers, shelters, gun and vehicle covers, and equipment items.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength		Tearing Strength	Hydrostatic Pressure High	Flame Resistance (5903)		Flexibility Cm. Max. Warp	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)	
			Oz/ Sq Yd			Lb. Min.				Lb.	After Flame length sec min					Char Max"
			(5041)			(5100)		(5132)	(5512)			(5204)	(5122)	5970	5872	
Cloth, Coated, Nylon, Waterproof MIL-C-20696A Amd. 2, (Cont'd)			Min	Max		W	F	W	F	W	F	W	F	70°F	40°F	
			(5134)													
Type II- Nylon 5.1 oz (nominal) uncoated			(5102)													
Class 1- Base cloth coated with chloroprene.	Bright high tenacity filament nylon. Plain weave. Weight: 5.1±0.3 oz. Yarns/Inch: 22 in. the warp; 21 in the fill. Breaking strength: 225 in warp and fill.	Class 1 p. 166.	15	17	39	325	260	45	38			11.5-	20.0	15	No. 3	
					min. (initial)		or 80% 80%				14.5					
					(1)(after weatherometer)											
Class 2- Base cloth coated with vinyl chloride polymer or copolymer.	Class 2 p. 166. Coating shall also contain an evenly dispersed fire inhibitor.	Class 2 p. 166.	17	19	39	325	260	45	38			13.5-	22.0	15	No. 3	
					min. (initial)		or 80% 80%				16.5					
					(1)(after weatherometer)											
Class 3- Base cloth coated with chloroprene containing fire retardant.	Class 3 p. 166.	Class 3 p. 166.	17	19	39	325	260	45	38	10	10	3.5W	11.5-	20.0	15	No. 3
					min. (initial)		or 80% 80%				3.5F	14.5				
					(1)(after weatherometer)											

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-20696A Type II Class 1 Class 2 Class 3 (Cont'd)	See page 166.	See page 166.	See p. 166. Type II, Class 2: in warp direction, flame shall not traverse entire length of specimen within 42 sec. of start of burner flame (5903-T).	See p. 166.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High	Flame Resistance (5903)		Flexibility Cm. Max. Warp	Bursting Strength Pn. Min.	Adhesion lb/2" wide	Blocking Scale rating
			Oz / Sq Yd		Lb. Min.	Lb.		After Flame sec. min.	Char length Max. "				
			(5041)		(5100)	(5132)	(5512)			(5204)	(5122)	5970	5872
Cloth, Coated, Raft Bottom			Min	Max	W	F	W	F	W	F	70°F	-40°F	
MIL-C-21109A (WEP)													

Type I- 7.0 oz.	Nylon conforming to MIL-C-21108, Type I.	Natural rubber- not less than 80% by volume new plantation rubber. Containing softeners, curing agents, anti-oxidants, and reinforcing materials. Outer coating shall be pigmented. Fineness that 100% of pigment shall pass through 325 mesh screen. Coatings shall not be injurious to base cloth and contain no ingredients which might bloom to the surface of adversely affect coated cloth. Shall cure properly & be water insoluble (water extractable matter: 1% of wgt. max.). Compound shall be cured in sheet form. See spec. for table of physical properties of coating compound.	6.3	7.0	(1)	150	140		50	(initial)			7.0	No. 2
						90%	90%		50	(after heat aging)				
Type II- 14.0 oz.	Nylon conforming to MIL-C-21108, Type II.		13.3	14.5	(1)	300	300		100	(initial)			7.0	No. 2
						90%	90%		100	(after heat aging)				

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-21109A Type I Type II	Foundation coating compatible with base cloth & remainder of coating compound shall be applied to achieve required adhesion. Coating compound shall then be applied by spread coating operation. Compound shall be applied in sequence of operations so that both sides shall be coated and built up in accordance with spec. Pigment shall be incorporated in outermost coating. Coating shall be cured. Cured coated cloth may be lightly dusted with talc of zinc stearate.	Color - Unless otherwise specified, uniform permanent color of finished coated cloth shall be an app. match to color number 33538 lusterless Yellow of Fed. Std. 595.	Cloth shall be from current production and not more than 90 days old prior to release for shipment. Cloth shall not become stiff and brittle or soft and tacky after heat aging (4.6.9). Cloth shall show no signs of cracking when folded after exposure to low temps. (4.6.10).	Intended Use - In the manufacture of life raft bottoms. Type I is for one-man rafts, cylinder carriers, oral inflation valve pockets, sea anchor moorings, and accessory patches used in the manufacture of pararafts and packet rafts. Type II is for the multi-place life raft bottoms.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5132)	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. (5122)	Adhesion lb/2" wide (5970)	Blocking Soda rating (5872)
								After Flame	Char Length				
			Min	Max	W	F	W	F	W	F	70°F	40°F	

Cloth, Laminated,
ZPG and ZPG W
Type Airship Envelope
MIL-C-21189 (AER)

Amd. 1

Dacron (polyester fiber). Cloth shall be heat set so that shrinkage shall be no greater than 1.5% in both warp and fill. Max. chloroform extractable matter shall be 1.5%.

pr: 6.5 - 8.0 (2811).

Not less than 75% by volume chloroprene. Outer coat shall contain not less than 75% by volume chlorosulfonated polyethylene. Balance shall be softeners, curing agents, antioxidants, and reinforcing materials. Chlorosulfonated polyethylene shall contain aluminum pigment conforming to TT-A-468, Types I or II, Class A. Compounds shall contain no waxes or ingredients that may bloom to the surface to affect coating adhesion or cementability. Water insoluble after curing and shall not irritate skin or detrimentally affect dacron. Cured in sheet form. See spec. for table of physical properties of coating compd.

(5102)

320 280 130 130 600
(see spec. for requirements after testing)

10 No. 1

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-21189	Laminated cloth shall consist of 2 plies of dacron (polyester fiber) cloth bonded & coated uniformly with chloroprene base compound on outer sides of cloth. Laminated cloth shall have additional coating of aluminized-chlorosulfonated polyethylene on one (outer) side of laminated cloth.	Color - Unless otherwise specified, color shall be aluminized.	(4) No more than 4 weeks shall elapse from time of curing to date of delivery of coated cloth. Ultimate elongation- Initial: 30% max. in warp and fill for straight ply; 35% max. for warp and fill for bias ply (5102). See spec. for requirements after testing. Permeability to hydrogen- Without tension- Initial: 2.5 L/sq M/24 hours max. At bias seam- Initial: 2.5 L/sq M/24 hours max.; Under tension- Initial: 2.5 L/sq M/24 hours max. (5460). See spec. for requirements after testing. Adhesion between plies - Initial: 7.5 lb/in min.; After creasing: 7.5 lb/in min. (5950). Cylinder elongation: 1% max. in the warp (10.2.6). Aluminized laminated cloth, after treatment with aluminum base wash coat, shall show total reflectance of not less than 50%. Bias seam: 3/4 in. min. Free from ragged and uneven edges and from loose threads imbedded in coating compound. Coating shall be applied uniformly throughout.	Intended Use - In the manufacture of airship envelopes.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.		Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp	Bursting Strength Pts. Min.	Adhesion lb/2" wide	Blocking Scale rating
			(5041)	(5041)		(5100)	(5132)			After Flame length sec. min.	Char length Max.	(5204)	(5122)	(5970)	(5872)
Dunnage Mattress, Pneumatic, Cargo Shoring MIL-D-21857A	Casing base cloth shall be nylon duck. Yarn: 210 den. 32-35 filament, bright high tenacity polyamide of hexamethylene diamine & adipic acid or its derivatives; 5-ply (6). Weave: 2/2 basket (2 ends weaving at 1 and 2 picks/shed). Weight: 13.0±0.3 oz. Yarns/inch: 40 min. in warp and fill. Breaking strength: 675 lb. min. in the warp; 650 lb. min. in the fill. Elongation: 20% min. in warp and fill. Non-fibrous material: 2% of dry weight of cloth. pH: 5 - 9.	Chloroprene synthetic rubber. Pigmented.	40	50	675	650	90	90		W/F	W/F	70°F-40°F	(73°) (-20°) 16 20	35 min.	No. 1

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-D-21857A	Uncoated cloth shall be thoroughly scoured and heat treated to impart stability, so that the cloth shall not shrink more than 3% in the warp or 2% in the fill. Coating compound shall be uniformly applied so that one side shall have a min. coating of 9.0 oz/sq yd., and the other side shall have a min. coating of 9.0 oz/sq yd. Coated cloth shall be heat-vulcanized.	Color - Uncoated cloth shall have a natural color evolving from processing. Color of all rubber components shall be Black.	(4) See spec. for requirements for strapping, thread, webbing, bladder, valve chain, and closure rod. Abrasion: cloth shall be tested for 20,000 cycles without tearing through (5032). Permeability: the dunnage unit shall show no more than a 0.2 lb. pressure loss after 24 hours of testing (4.4.2.1).	Intended Use - The dunnage unit is a special design, highly resilient, light weight inflatable air mattress used for tightening and cushioning loads, absorbing impact shocks, and reducing load vibration during common carrier transit. The dunnage unit is intended to replace timber shoring and is capable of being placed in position and inflated by one man. Dunnage units are capable of multiple usage to restrain palletized loads, large boxes, and irregularly shaped commodity containers. Dunnage units may be used singly or in series to fill voids as determined by load spacing in the carrier.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5132)	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Can. Max. Warp (5204)	Bursting Strength Pk. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5372)
								After Flame sec. min.	Char length in.				
			Min Max		W F	W F		W F	W F	70°F -40°F			

Cloth, Coated (Neoprene, Asbestos, Glass, Cotton; Aluminized)

MIL-C-21890 (NAVY)

Warp: 100% continuous filament glass fiber. Filling: 2-ply; one end of asbestos-cotton blend (Underwriter's Grade); one end of continuous filament glass fiber. Weight: 11.8 oz max. Weave: 2/1 right twill. Yarns/inch: 60 in the warp; 38 in the fill. Breaking strength: 90 lb. in the warp; 70 lb. in the fill. Tearing strength: 6 lb. in the fill. Fiber content: 55% asbestos; 27% glass 18% cotton.

Black neoprene rubber with flameproofing additives. Pure aluminum.

- 19.0 (1) 90 70

30 2 2 1.5 1.5
(initial)
25
(after stretching)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-21890	Neoprene coating applied to back of cloth. Coated cloth shall be fully vulcanized. No strike through of coating to uncoated side. Cloth may be dusted on coated side to prevent blocking. Weight of coating: 16.0 oz/sq yd max. Aluminum coating shall be applied to cloth face to produce smooth, highly reflective surface. Aluminum film shall not crack, flake, blister, or peel during or after preflex, exposure to the globar, or postflex (4.4.2). Cloth may be untreated for not more than 1/2 in. from each selvage edge.	Color - Neoprene coating shall be Black. Aluminum surface shall match Navy shade aluminum 3900.	(4) There shall be no evidence of cracking on either side after exposure to low temps. (5874). No blocking on either side; no visible loss of reflectance on aluminum side at high temps. (5872). Neoprene coating shall not tear or delaminate (5872). Aluminum coating shall not separate from base cloth (4.4.3). Flexibility: no cracks or separations on either side (4.4.1).	Intended Use - In the manufacture or protective clothing for fire fighters' outfits and other heat protective, proximity garments.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cn. Max. Warp (5204)	Bursting Strength (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
			Oz/Sq Yd						After Flame	Char Length				
			(5041)			(5100)	(5132)		sec. min.	Max."				

Cloth, Laminated, Rubber on Nylon, Inflatable Floor MIL-C-22427 (USP)	Yarn: bright commercial nylon polyamide of polyhexamethylene adipamide. Pile cloth shall consist of 2 nylon cloths joined by a min. of 30 pile yarn/sq in so that cloths are spaced a min. of 1 in. apart after heat setting. Wgt: 7.6±0.5 oz. Yarns/in: 50±2 in. warp and fill; 30 in pile. Height of pile: 1 in. Yarn size: warp-2-ply 70 den.; fill-singles 210 den.; pile-2-ply 70 den. or singles, 210 den. Weave: face & back-plain; Pile thread: fast pile or W. Cover cloth shall be nylon, 1.0± 0.1 oz. plain weave. 90±2 yarns/in. warp & fill. Breaking strength: 40 warp and fill. Calendered, scoured, heat set. (6). pH: 6 - 8.	Coating & laminating compound shall be 80% by volume min. new plantation rubber. Balance of softeners, curing agents, anti-oxidants, & reinforcing materials. Pigmented. Pigment of fineness to pass through 325 mesh screen. Foundation coat & rubber shall not injure base cloth or contain ingredients which would bloom to the surface or affect coating adhesion or bondability of finished cloth. No rubber substitutes shall be used & anti-oxidant used must retard aging in service. Compound shall be cured in sheets.	30	32	(1)	2500 2500 (initial) 85% 85% (after heat aging)	(a)	W/F	W/F	W/F	W/F	70°F-40°F	7 (initial) 6 (after heat aging)	No. 2

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-22427	Coating shall be applied with a spreader, using multilayer application technique. Foundation coating shall be applied to base cloth to insure required adhesion. Rubber coating shall be applied to each side of pile cloth. On top of coating on each surface shall be applied the nylon cloth, to which, in turn, shall be applied the natural rubber. Pigment shall be incorporated in outer-most coatings. Laminated cloth shall be cured, and cured cloth may than be dusted with talc or zinc stearate.	Color - Color of finished laminated cloth shall be uniform and an app. match to color number 33538 lusterless Yellow of Fed. Std. 595.	(a) Method No. 4111 of Fed. Std. 601. Cloth shall be a max. of 4 weeks of age at time of release for shipping. Permeability to hydrogen: 4 L/M ² . Permeability to helium: 2.5 L/M ² (see spec. for requirements after exposure to high and low temps.) Cloth shall show no signs of cracking after exposure to low temps (4.5.10). Folded cloth shall not be tacky or adhere to itself after exposure to high temps. (4.5.11). Coating shall not become stiff and brittle or soft and tacky after heat aging. Adhesion between plies and coating shall be not less than 6. Breaking strength shall be at least 85% of original (4.5.12). Cloth shall show no signs of air leakage at a pressure of 5 lb/in ² for 5 min. (4.5.13). Elongation: Initial- 500%. After heat aging- 75% of original. Free sulfur: 0.2% max. Hardness, Shore durometer: 50 ± 5.	Intended Use - In the manufacture of the MK 12A-1 inflatable floor for life rafts.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min.	Adhesion lb/2" wide	Blocking Scale rating			
			(5041)			(5100)	(5132)		After Flame sec. min.	Char length in. Max.		(5122)	(5970)	(5872)			
Cloth, Nylon, Marquisette; Metalized			Min	Max		W	F		W	F	W	F	70°F	40°F		W	F
MIL-C-22156 (A&P) Bright nylon Reverse Doupe weave. Warp: singles, 260 den., 17 filament. Fill: 2-ply, 260 den., 17 filament.			8.0	0.5	46	140	150	11	20							3.5	5.0
Metalizing: silver. Protective coating: polymer or copolymer of vinyl chloride or vinyl chloride-acetate resin. Plasticized & pigmented.					±1												

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-22156	Base cloth shall be metallized to produce a max. resistance of 10 ohms/sq ft. Outside protective coating shall be applied to form an envelope around yarns in both warp and fill directions, thereby leaving the interstices substantially open. Radar reflecting surface shall be produced (4.4.8).	Color - Color of finished cloth shall be white.	Sealage shall be double density 1 1/2 in. wide woven on each edge. Three 1 in. double density reinforcing strips shall be woven in, equally spaced in width of the cloth. Yarns/in: 40 in the warp; 22 in the fill. Flame resistance: no less than 2 min. to consume (5910). Air permeability: 950 CFM/sq ft min., .5 in. water pressure drop (5450). Open area: 99.9%. No cracking at low temps. (4.4.5). No cracking or flaking at exposure to hydrocarbon fluid (4.4.6). No adhesion of surfaces at high temps.	Intended Use - In the manufacture of radar reflective tow targets and equipage.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width	Breaking Strength	Tearing Strength	Hydrostatic Pressure	Flame Resistance (5903)		Flexibility	Bursting Strength	Adhesion	Blocking	
			Oz / Sq Yd	Inch	Lb. Min.	Lb.	High	After Flame	Char length	Cm. Max.	Pts. Min.	lb/2" wide	Scale rating	
			(5041)		(5100)	(5132)	(5512)	sec	Min	(5204)	(5122)	5970	5872	
Cloth, Coated: Fire, Water, Mildew and Weather Resistant			Min	Max	W	F	W	F	W	F	W	F	70°F	40°F

Class 1- 12±10% oz.	Nylon	Of a character that finished cloth will be suitably resistant to fire, water, mildew & will not deteriorate when used outdoors. It shall not be hygroscopic or cause dermatitis when cloth to which it has been applied is handled. Finished cloth shall not exert any corrosive action on metallic grommets.	12±10%	(1)	180	160	(5134)	7	6	250	5	5	5	12	No. 2
Class 2- 15±10% oz.	"		15±10%	(1)	300	260		12	10	250	5	5	5	12	No. 2
Class 3- 18±10% oz.	"		18±10%	(1)	300	300		30	25	250	5	5	5	12	No. 2

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-22524A Class 1 Class 2 Class 3		Color (1). Colorfastness- "fair" to light (5660).	Mildew resistance: cloth shall show no more than traces of surface growth and lose no more than 15% of strength due to mildew attack. Cloth shall show the same water resistance after weathering, and the same flame and mildew resistance after weathering and water leaching. No cracking or flaking at low temps. initially and after weathering (5874). Flexibility: bending moment of 0.0200 in-lb. max. initially; of 0.150 in-lb. after heat aging; and of 0.1000 in-lb. max. after exposure to low temp. (5203-5870). Shrinkage: 3% in each direction after heat aging (5870). Cloth shall not lose more than 25% of breaking and tearing strength after weathering. No cracking or flaking of coating after exposure to ozone (4.4.1).	Intended Use - In the manufacture of various covers and awning providing protection under varying climatic conditions during prolonged outdoor use.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch (5100)	Breaking Strength Lb. Min. (5132)	Tearing Strength l.b. (5512)	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
								After Flame length sec. Min.	Char length Max"				
Cloth, Coated, Glass, Vinyl Coated, Fuel and Flame Resistant MIL-C-22787 (SA) Amd. 1	Cloth, glass conforming to Class C, for 4, Fiber D, cloth n. 126 of MIL-Y-1140.	Flexible high-polymer vinyl resin. Flame resistant. Pigmented.	11 14	(2) 30 min.	205 185		200 (initial) 200 (after cold crack) 200 (after heat aging)	2 2 3 3			12	No. 3	

Cloth, Coated,
Nylon, Copolymer of
Butadiene and Acrylonitrile (Rubber)
MIL-C-22916 (MC)

Nylon 66 (polyhexamethylene adipamide). W: semi-dull, 40 den., 13 filament. F: bright 70 den., 34 filament. Relaxed filling yarn mandatory in order to minimize pirn taper barre. Weight: 1.4-1.6 oz. Yarns/Inch: 116 W; 76F. Breaking strength: 50. Weave: 2/1 right twill. Selvages composed of 34-4 ends, weaving 2 as 1. Feet shrunk & dyed. Shrinkage: 2% max. W, 1% max. F.

Rubber copolymer of butadiene and acrylonitrile, plasticized with phosphate or phthalate ester plasticizers. Pigmented.

- 4.8 (1) 50 50 17 17 65
(see spec. for requirements after testing)

No. 2

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-22787	Base cloth shall be impregnated with coating, applied equally and uniformly to both sides.	Color-Coating shall be pigmented to match Green No. 34079 of Fed. Std. 595.	(4) Thickness: 0.02 in. max. Shall not become soft, tacky, stiff or brittle after acc. weathering (5804). Cloth shall not curl, become stiff, or crack on bending after exposure to hydrocarbon test fluid or hydraulic oil (4.5.1-4.5.2).	Intended Use - As a covering for detachable compartments.
MIL-C-22916	Cloth shall be coated on reverse side only and then cured. Uniform finish. Coated side shall be dusted with a micaceous talc of 98/100 mesh to prevent blocking. Reverse side shall be side with the twill line running up from right to left. No strike through of coating to uncoated side of cloth.	Color - Base cloth: cloth shall be dyed with special nylon dyes or other dyes that will show no more striation in finished coated cloth than standard sample. Cloth shall match standard sample Green 2200 (3). Coated cloth: cloth shall match standard shade sample Green 2200 in luster and color (3). Colorfastness - Uncoated side shall be equal to standard coated sample.	(4) All selvages shall be trimmed from coated cloth.	Intended Use - In the manufacture of rainwear.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width	Breaking Strength	Tearing Strength	Hydrostatic Pressure	Flame Resistance (5903)		Flexibility	Bursting Strength	Adhesion	Blocking
			Oz./ Sq Yd	Inch	Lb. Min.	Lb.	High	Resistance	Con. Max.	Warp	Min.	lb/2" wide	Scale
			(5041)		(5100)	(5132)	(5512)	After Flame	Char Length	(5204)	(5122)	(5970)	(5872)
			Min	Max	W	F	W	F	W	F	70°F	40°F	
Cloth, Laminated, and Tape, Coated Cloth, Natural													

Cloth, Laminated, and Tape, Coated
 Cloth, Natural
 Rubber on Nylon
 MIL-C-23070 (WRP)
 A-1. 1

Variety C-
 Laminated cloth

Cloth shall conform to: MIL-C-19377 & MIL-C-7020, Type II, except that it need not conform to air permeability and permanence of finish requirements. Any defect shall be marked with a single strand thread which shall not increase cloth thickness, and, when coated, shall allow uniformity of coating on spreading machine. Thread shall be visible after coating.

Not less than 80% by volume of raw plantation natural rubber. Balance shall be softeners, curing agents, antioxidants, & reinforcing materials. Compound for outer coatings shall be pigmented. Pigment shall pass through 325 mesh screen. Compounds shall not be injurious to base cloth & shall contain no ingredients which would bloom to the surface or affect properties of cloth. Compounds shall be such that they will cure properly and provide proofing films insoluble to water. See spec. for table of physical properties of cured coating compound.

- 12.5 (1) 300 250
 (initial)
 90% 90%
 (after heat aging)
 75% 75%
 (after weatherometer)

7 No. 2

5

Variety T-
 Coated cloth tape

- 7.0 (1)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-23070 Variety C Variety T	Foundation coating compatible with base cloth and remainder of coating shall be applied to achieve adhesion. Coating shall be applied to base cloth by spread coating operation. Compound shall be applied in sequence of operations so that both sides of each cloth ply shall be coated and laminated. Pigment shall be incorporated in outermost coatings. Laminated cloth shall be cured. Cured laminated cloth may be lightly dusted with talc or zinc stearate.	Color - Base cloth shall be undyed. Coated cloth: finished cloth and tape (1). Usual color selected is Color No. 33538 Yellow (usually on straight ply side) of Fed. Std. 595. Normally, pure gum rubber coating of cloth tape, which is not fully cured, shall not be pigmented. Opposite side shall match selected color.	Cloth & tape shall not be more than 90 days old prior to date of release for shipment. Laminated cloth: Cloth shall not become soft and tacky or stiff and brittle after heat aging (4.6.9). Cloth shall not become discolored, brittle, or show signs of blooming after weatherometer (4.6.10). Cloth shall show no signs of cracking after exposure to low temps. (4.6.11). Cloth shall not become tacky or adhere to itself after exposure to high temps. (4.6.12). Permeability to hydrogen: Initial- 4 L/M/24 hours. See spec. for requirements after testing (5.4.60). No air leakage under pressure (4.6.13). Coated cloth tape: Edges of tape shall be smooth, not pinked. Tape shall not be dusted. Calendered uncured gum coating side of tape shall be protected by a suitable liner which shall be capable of separation without affecting adhesion or cementability of cloth. Permeability to helium: 2.5 L/M/24 hrs. See spec. for requirements after testing (5.4.60).	Intended Use - In inflatable life rafts.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High	Flame Resistance (5903)		Flexibility Cm. Max. Warp	Bursting Strength Pts. Min	Adhesion lb/2" wide	Blocking Score
			(504:1)	(5100)		(5132)	(5512)	After Flame sec. Min	Char length Max	(5204)				
<u>Cloth, Coated and Laminated, Polychloroprene on Nylon, and Tape, Polychloroprene, Unsupported</u>			Min	Max		W	F	W	F	W	F	70°F	40°F	
MIL-C-23926 (WEP) Amd. 1														
Type I- Cloth, coated, rubber, knitted stretch nylon.	Plain Jersey circular knit made of stretch nylon yarns. Yarn shall be nylon	Not less than 60% by volume of polychloroprene. Balance shall be softeners, curing agents, anti-oxidants, and reinforcing materials. Coated shall be natural color or pigmented. Coating compound shall be compatible with base cloth & contain no waxes or other ingredients that may bloom to the surface to adversely affect coating adhesion or cementability. Ingredients of compound shall be water soluble after curing.	19.0	(1)	90	45								8
Type II- Cloth, laminated, rubber, neck and wrist seal.	polyamide of polyhexamethylene adipamide. Tape shall be made of polychloroprene.		24.0	(1)	90	45								8
Type III- Tape, rubber, unsupported.														
Class 1- Pressure sensitive tape.				(1)										
Class 2- Non-pressure sensitive tape.				(1)										
Type IV- Cloth, coated, rubber, knitted stretch nylon, uncured, semi-cured.			23.0	(1)	90	45								8

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-23926 Type I Type II Type III Class 1 Class 2 Type IV	After application of a foundation coat which must be compatible with base cloth & remainder of compound, coating compound shall be applied by spreader or calender coating operation. Coating shall be applied to one surface, side with smooth surface to provide best coating adhesion on Types I & IV, and applied between 2 cloths of Type II. Cloth shall be cured. Cured coating may be lightly dusted with talc or zinc stearate. Type IV cloth shall be uncured or partially cured (1).	Color - Base cloth: dyed (1). Coating: coating shall be natural color or pigmented during compounding so that cured compound and base cloth shall have matching color. Tape (1).	Elongation at break, 2 in. wide strip, Types I, II and IV: 100% min. in the wales: 250% min. in the courses. Coating thickness: Types I & II- 0.012 in. min.; Type IV- 0.016 in. min. Modulus at 75% elongation: Types I & II- load required to maintain 75% elongation on 2 in. wide specimen, in course direction, after specimen has been stretched 150%, shall not exceed 3.0 lb. (4.4.8). Resistance to flexing: Types I and II shall show no tears in coating, no separation of coating from cloth, and no leakage of water (4.4.9). Types I, II & IV shall not crack or leak water after exposure to low temps. (4.4.10). After being stretched to 100% for 16 hours, tension set of Types I, II, and IV shall not exceed 13% when examined 3 hours later (4.4.11). Class 1 tape shall have surface coating of polychloroprene, uncured or partially cured, covered with protective liner; cured side lightly dusted with talc. Class 2 tape: same cure as coated cloth; one side with protective liner; other side dusted with talc.	Intended Use - In the fabrication of insulation garment and continuous-wear anti-exposure coveralls designated as Mark 5.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cm. Max. Warp (5204)	Bursting Strength	Adhesion lb/2" wide	Blocking Scale rating
					Lb. Min. (5100)	Lb. (5132)		After Flame sec min	Char length Max"		Pt. Min (5122)		(5872)
Cloth, Nylon, Metalized			Min Max		W F	W F		W F	W F	70°F	40°F		

MIL-C-25694A (USAF)
Amd. 1

Marquisette woven from 260 den., 17 filament high tenacity nylon. Yarn shall be a polyamide from hexamethylene diamine & adipic acid or its derivatives. It shall have a melting point of 250°-260°C. Weight: 3.25 oz max. Yarns/Inch: 40 in the warp; 22 in the fill. Fly: 1x2. Thickness: 0.0170 in. max. Breaking strength: 100 in the warp; 125 in the fill. Tearing strength: 8 in warp and fill. Air permeability: 3850-4000 ft³/min/ft² at 5 in. Weave: 4-end leno, repeating on 2 picks (8). (6). Double density selvedge, 1 in. min. woven each side. Permanent finish: air permeability shall not change more than 15%; thickness more than 10%; and cloth shrinkage shall be 2% min. in the warp and 1% min. in the fill. pH: 5.0 - 9.0.

(5104) (5134)
100 125 8 8

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-25694A	Base cloth shall be equally and uniformly metalized on each side to provide radar reflectivity. Metalizing shall be such to withstand normal folding and handling of cloth without excessive transfer to the hands.	Color - Base cloth: shall be natural in color.	Air permeability: 3750-3900 ft ³ /min/ft ² at 5 in. (5450). Metalized cloth shall not crack or flake after exposure to low temps. (4.3.2.3). Cloth shall show no greater resistance to electricity than 10 ohms (4.3.2.4).	Intended Use - In the manufacture of aerial banner type tow targets.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz / Sq Yd (5041)	Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5503)		Flexibility Cn. Max. Warp (5204)	Bursting Strength Pts. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)	
					(5100)	(5132)		After Flame sec. Min.	Char length Max.					
					Min	Max	W	F	W	F	W	F	70°F	-40°F
Cloth, Coated, Nylon, Chloroprene-Coated MIL-C-26712A (ASG)														
Am. 1					210 den., 4-ply or 840 den., singles, continuous filament, high tenacity nylon polyamide of polyhexamethylene adipamide. It shall have a melting point of 482°±10°F. Weight: 8.50 oz. max. Yarns/Inch: 34 in the warp; 30 in the fill. Breaking strength: 425 in the warp; 375 in the fill. Weave: plain.	Not less than 60% chloroprene by volume. Balance shall be softeners, curing agents, anti-oxidants, & reinforcing materials. Pigmented in compounding process. Pigment shall contain no waxes or other ingredients that may bloom to the surface and adversely affect coating adhesion and cementability. Coating shall not contain any ingredients known to promote skin irritation or to have detrimental effect on nylon.	41.0	1.5	(1)	575	525 (initial) 90% 90% (after aging)			10 (initial) 3 (after aging)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-26712A	Coating shall be applied equally to both sides of cloth.	Color - Unless otherwise specified, color of finished cloth shall be Black.	Thickness: 0.045±0.003 in. No blocking (5872). Cloth shall not crack at low temps. (4.3.2.3).	Intended Use - In aircraft pneumatic lifting bags.

COATED CLOTHS

NOMENCLATURE	Bres Cloth Spec/Actions	Type of Coating Compound	Overall Weight	Width	Breaking Strength	Tearing Strength	Hydrostatic Pressure	Flame Resistance (5903)		Flexibility	Bursting Strength	Adhesion	Blocking
			Oz/Sq Yd	Inch	Lb. Min.	Lb.	High	After Flame	Char Length	Cm. Max.	Pts. Min.	lb/2" wide	Scale rating
			(5041)		(5100)	(5132)	(5512)	sec	Max	(5204)	(5122)	5970	5872
Cloth, Coated; and Tape, Rubber Coating on Nylon, For Pneumatic Life Rafts			Min	Max	W	F	W	F	W	F	70°F	40°F	

MIL-C-27258 (USAF)

Type I- Tube fabric, 13.0 oz. max.	3.0 oz. Nylon, MIL-C-19377 (straight). 1.6 oz. Nylon, MIL-C-7020, Type II, (bias): except that silicone oil shall not be used and requirements for permanence and stability of finish shall not apply.	80% min. by volume new plantation rubber. Suitably compounded & properly vulcanized so that max. life under service conditions be obtained. No materials injurious to cloth or water soluble after vulcanization shall be used. No fillers, processes, or any material which would tend to decrease life of the cloth shall be used. Cured in sheet form. See spec. for table of physical properties of compound.	13.0	40	300 250 ± (initial) 85% 85% (after acc. weathering) 90% 90% (after oxygen aging)						14 (initial) 8 (after air aging)		
Type II- Tape fabric, 7.0 oz. max. (to be cut in bias tape 2" wide)	1.6 oz. Nylon, MIL-C-7020, Type II (see restrictions above).		0.85	2	100 ±1/8 (initial) 90% (after oxygen aging)						10 (initial) 7 (after oxygen aging)		
Type III- Floor fabric, 13.0 oz. max.	5.5 oz. Nylon, MIL-C-20696, Type II.		13.0	40	335 280 ± (initial) 80% 80% (after acc. weathering)		100				18		

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-27258 Type I Type II Type III	Cloth shall be spreader coated, using no fewer than 5 coats/oz. of rubber/sq yd of surface covered. Rubber film shall be divided equally between plies that are doubled together. Cloth shall be cured in a liner of closely woven cloth of high thread count. Soapstone liners shall not be used.	Color - Unless otherwise specified, color of finished cloth and tape shall be Orange-Yellow conforming to color No. 33538 of Fed. Std. 595. Color pigment shall be incorporated in coating compound and shall be permanent for life of cloth. Pigment shall be of fineness to pass through standard 325 mesh screen.	Types I & III: Cloth shall not be tacky after air aging (4.3.2.3). Cloth shall show no blocking (5.472). Cloth shall not crack or flake at low temps. (4.3.2.2). Type I: Helium permeability: Initial- 5.0 L/M ² /24 hrs. max.; After aging: 7.0 L/M ² /24 hrs. max. Elongation: Initial- 25%; After acc. weathering- 22%; After oxygen aging- 25%.	Intended Use - In the fabrication of pneumatic life rafts. Specifically intended for use in fabrication of Type F-2B, twenty-man, pneumatic life raft. Rubberized floor cloth should be used for all patches or pockets attached to raft.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cn. Max. Warp (5204)	Bursting Strength Pcs. Min. (5122)	Adhesion lb./Sq. in. (5970)	Blocking Scale rating (5872)	
			Oz / Sq Yd						After Char. Flame length sec. Min. Max.						
			(5041)						(5100)	(5132)					(5512)
Cloth, Coated, Glass, Aluminum Face, Silicone Rubber Back			Min	Max		W	F	W	F	W	F	W	F	70°F	40°F
(5134)															

Cloth, Coated, Glass,
Aluminum Face, Silicone Rubber Back

MIL-C-27347 (USAF) 100% continuous filament glass yarns. Weight: 3.5 +0.5 oz. Thickness: 0.009 in. max. Weave: Crowfoot satin. Yarns/Inch: 64 in the warp; 60 in the fill. Breaking strength: 130 lb. in the warp; 90 lb. in the fill.

Silicone rubber. Vacuum distilled aluminum.

16+2 (1) 150 150 (5134) 3 3

Cloth, Coated, Butyl, Polyamide, Normelt, Fuel and Oxidizer Resistant

MIL-C-38149 (USAF) Normelt, high strength polyamide. Melting point: over 800°F. Weave: 2/2 basket. Weight: 0.009 in. max. Yarns/Inch: 64 in warp and fill. Breaking strength: 185 in warp and fill.

Butyl rubber composition. Pigmented.

15 17 (7) 39 185 185 (5134) 8 8 min. (initial) 75% 75% (after weathering)

15 15 3 3

8.25 No. 3

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-27347	Base cloth shall be evenly and uniformly coated on one surface with silicone rubber. On opposite surface shall be a highly reflective layer of aluminum, directly adhered to warp face by means of a curable, highly flexible, solvent resistant adhesive bonding composition.		Neither coating shall show evidence of cracking, stiffening, flaking, or separation in cold crack (4.6.1.1). Thickness: 0.015+ 0.0015 in. There shall be no evidence of blocking (5872). Stiffness: 0.0130 in-lb max. (5202). Thermal radiation resistance: no direct thermal transmission; no visible damage; no visible light transmission (4.6.1.2). Flame resistance: Flame time- 10 sec. max.; Glow time- 2 sec. max. (5902).	Intended Use - As a thermal curtain to protect personnel and equipment while exposed to high intensity thermal radiation for a brief period of time.
MIL-C-38149	Coating shall be applied evenly to both sides of base cloth, after which cloth shall be fully cured.	Color - Coating shall be pigmented a tan color. Both sides of coated cloth shall match standard shade.	(4) Thickness: 0.017 in max. Abrasion resistance: 300 cycles min. (5306). No visible cracking or flaking after exposure to low temps. (5874). After glow: 20 sec. max. Toxic gas permeability: Fuel- 0.01 mg/in ² (max. leakage) (4.6.3). Oxidizer- 0.01 mg/in ² (max leakage) (4.6.5). Coated cloth shall be essentially odorless (4.5.2).	Intended Use - In the fabrication of missile fueler's protective clothing.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd	Width Inch	Breaking Strength Lb. Min.	Tearing Strength Lb.	Hydrostatic Pressure High	Flame Resistance (5903)		Flexibility Cm. Max. Warp	Bursting Strength Pts. Min.	Adhesion lb/2" wide	Blocking Scale rating
			(5041)		(5100)	(5132)	(5512)	After Flame sec. Min.	Char length Max"	(5204)	(5122)	59702	4172
Cloth, Coated, Nylon, Vinyl Coated MIL-C-40039B	Nylon twill, 1.6 oz., heat set, conforming to Type I of MIL-C-577.	Polymerized or copolymerized virgin vinyl chloride resin, plasticized with phosphate or phthalate ester plasticizers exclusively. Pigmented.	Min 6.0 7.3 Max	(1)	90 80	24 18	40 (initial) 20 (after strength of coat.) 20 (after water immersion)	W/F	W/F	70°F-40°F	8	6 (initial) 5 (after water immersion)	No. 3

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-40039B	Base cloth shall be coated on both sides. One side shall be more lightly coated than the other. Lighter coating shall be on face side of cloth. Face side shall be side with twill line running from lower left to upper right. At least one coat of coating compound shall be applied directly to each side of cloth.	Color - Color of coated cloth shall be CG-207 and shall match standard sample for shade and luster(3).	(4-5) Cloth shall exhibit no softness, tackiness, stiffness, or brittleness after weathering (4.4.9). Cloth shall not leak (4.4.5). Abrasion resistance: no loose fibers of base cloth shall be exposed in center 1 in. of abraded portion (4.4.8). There shall be no cracking, flaking, or separation of coating from base cloth after exposure to low temps. (4.4.6).	Intended Use - In the manufacture of the Poncho, Lightweight, With Hood.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (5041)	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cn. Max. Warp (5204)	Bursting Strength (5122)	Adhesion lb/2" wide (5970)	Blocking Scale rating (5872)
					Lb. Min. (5100)	Lb. (5132)		After Flame sec min	Char length Max" (5134)				
			Min Max		W F	W F	W F	W F	W F	70°F-40°F			

Cloth, Laminated,
Fabric, Air-
Retaining Mattress

MIL-C-40056 (CE)

Cloth shall be free of all sizing & foreign matter. Air mattress cover cloth 30 den., type 300, high tenacity nylon yarn. Weave: plain 1/4 rip-stop. Yarns/Inch: 105 in warp and fill. Breaking strength: 45 lb. in warp and fill. Tearing strength: 3 lb. in warp and fill. No splices permitted. Air-mattress cloth: 2 backings of plain weave cloth of 75 ends/inch of 70 den. 2-ply, type 300 high tenacity nylon yarn in the warp and 40 picks of 210 den. type 300 yarn in the fill. Joined by 30-32 pile threads/sq in, included as warp yarns in plain weave of both backings. Pile threads of equal length throughout. One length without splices/unit package.

Polychloroprene. Not less than 60% by volume of chloroprene. Balance shall be only softeners, curing agents, antioxidants, and reinforcing materials and shall pass through a 100-mesh sieve conforming to RR-S-366. Water absorption shall be held to a min. Tensile strength: 1800 psi. Elongation: 500% min. Loss of tensile strength and elongation shall not exceed 10% after acc. aging of 96 hrs. or acc. weathering of 100 hrs.

23.40 (7)
(air mattress cloth)
(8)
53
(cover cloth)

4.5
(1b/1")

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-40056	Cloth shall consist of air mattress cloth sandwiched between 2 plies of cover cloth. See spec. for details of construction. Compound shall be applied at the rate of not less than 7 spreader coats for each oz. of compound/sq yd of cloth. Tolerances: +5% for each weight of coating compound & for each weight of finished cloth. Cloth shall be cured to have a smooth, even finish. Curing in soapstone will not be permitted. Proofed cloth shall not be over-cured or show expressive watermarks. Ingredients such as soapstone, talc, paraffin, etc., which will affect strength of cemented seams or joints shall not be embedded in surface of cloth. Compound, outside proofing, or cloth shall be treated to avoid formation of or neutralize any acid which might deteriorate strength or service life of cloth.	Color - When specified, compound for outside or exposed coatings shall have a compatible coloring agent added. Color shall match Olive Drab Color 7 in conformance to MIL-D-504, and shall have an infrared reflectance of 12.0-5.0% in both spectral regions.	Air mattress cloth shall have a 2 in. selva on each side. Cloth shall not crack when folded on itself at low temps. (4.4.3.3). Permeability of each side of cloth to hydrogen shall not be more than 6 L/M ² /24 hrs.	Intended Use - In the manufacture of pneumatic structures.

COATED CLOTHS

[illegible]

NOMENCLATURE	COATINGS	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-43006B Type I Class 1 Class 2 Type II Class 1 Class 2 Type III Class 1 Class 2	Laminated cloth shall consist of the open mesh nylon cloth laminated between 2 layers of vinyl film. Finished cloth shall have one comparatively smooth side. The other side shall be rough, in that the areas located over the points at which the yarns cross will be raised, while areas between yarns will be depressed. Smooth side shall be face side.	Color - Finished cloth shall be natural color of vinyl film or shall match applicable color number of Fed. Std. No. 595, or shall match an approved color standard for color specified (3).	(4-5)	Intended Use - For general use in the fabrication of protective covers. It may be reinforced for such items as truck covers or tarpaulins made of this material, but does not cover the articles themselves. Cloth provides high tear strength. Design concepts should include, however, means of securing end items to minimize excessive wind whip.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cn. Max. Warp (5204)	Bursting Strength Pt. Min. (5122)	Adhesion lb/2" wide (5970)	Blocking Score rating (5872)
			(5041)			(5100)		(5132)			After Flame (sec. min)	Char length Max" (5122)				
Cloth, Coated, Cotton, Resin Modified Butyl Coated, Acid and Fuel Resistant MIL-C-43062A			Min	Max		W	F	W	F		W	F	W	F	70°F	-40°F
	Mercerized cotton airplane cloth conforming to MIL-C-5646. Cloth shall not contain more than 0.003% copper and 0.0015% manganese.	Resin modified butyl rubber. Pigmented.	10.0	11.0		80	80	960	960	80 (grams) (initial) 60 (after strength of coat) 60 (after cold crack)					(-20°) 7.5 8.0	7 No. 1

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-43062A	Base cloth shall be coated on both sides. Approximately 25% of coating shall be applied to one side & the balance to the other side. After coating, cloth shall be dusted on both sides with whiting, talc, or other finely divided mineral material which does not support mildew growth to produce a dull, uniform finish.	Color - Coating compound shall be pigmented Black.	(4-5) Nitric acid surface tack, rating: No. II (4.4.5.5). Abrasion resistance: no visible loose fibers of base cloth shall be exposed in center 1 in. of abraded portion (4.4.3). Fuel resistance: no cracking, stiffening, flaking, or separation of coating from base cloth (4.3.2). Cloth shall not become soft and tacky or stiff and brittle after acc. weathering (4.4.4). Acid resistance: no evidence of cracking, stiffening, flaking, separation of coating from base cloth or change in color of indicator paper (4.4.5.3). Vulcanized coated cloth shall be free of objectionable odor. Odors normally attributed to modified butyl rubber shall not be regarded as objectionable. (4.4.6).	Intended Use - For the manufacture of protective clothing which is resistant to rocket fuels and oxidizers and suitable for use at low temperatures. Protective clothing shall be assembled using vulcanized coated cloth and vulcanized after assembly of clothing.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz./ Sq Yd (5041)	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cn. Max. Warp (5204)	Bursting Strength Pt. Min (5122)	Adhesion lb/2" wide (5970)	Blocking Scale (5872)
					Lb. Min. (5100)	Lb. (5132)		After Flame sec min	Char length Max"				
			Min Max		W F	W F		W F	W F	70°F -40°F			

Cloth, Coated, Nylon,
Vinyl Coated (For Air
Supported Shelters)

MIL-C-43086, Amd. 1

Cloth shall be either: Type I: continuous multifilament bright high tenacity nylon. 2/2 basket weave. Yarns for warp and fill shall be 840x20 denier. Weight: 5.5-6.0 oz. Yarns/inch: 24 in the warp; 26 in the fill. Breaking strength: 275 in warp and fill. Type II: continuous multifilament bright high tenacity nylon. Modified oxford weave in which 2 ends, weaving as 1, alternate across warp with 2 ends weaving plain. Warp yarns shall be 840x20 den., and fill yarns shall be 1680 x80 den. Weight: 5.5 - 6.0 oz. Yarns/inch: 24 x 13. Breaking strength: 275. pH: 5.0 - 6.5.

Virgin vinyl chloride or vinyl chloride-acetate copolymer plasticized with phthalate or phosphate ester plasticizers exclusively. Pigmented.

(5102) (5134)
300 300 100 100
(initial)
80% 80%
(after acc. weather.)

10 No. 3
(dry)
8
(wet)

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
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MIL-C-43086

Cloth shall be coated on both sides. Face of cloth shall be coated with 8.0-9.0 oz/sq yd. of coating, and back shall be coated with 5.0-6.0 oz/sq yd of coating.

Color - Finished cloth shall be white in color to match color 17855 of Fed. Std. 595. Colorfastness - There shall be no appreciable change in color after acc. weathering (4.4.7).

(4-5)
There shall be no cracking at -100°F (4.4.3). Oil resistance: no leakage (4.4.4). Aromatic carbon resistance: no cracking (4.4.5). Cloth shall not crack when folded sharply on itself or show any signs of blooming or bleeding after acc. weathering (4.4.6.1).

Intended Use - In the fabrication of Tent, Air Supported, for Track and Acquisition Radar (Conus) and for other air supported shelters where intended use does not involve erecting and striking at temperatures below minus 10°F.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight		Width Inch	Breaking Strength		Tearing Strength		Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Cn. Max. Warp (5204)	Bursting Strength P _{min} (5122)	Adhesion lb/2" wide (5270)	Blocking Scale rating (5672)				
			Oz /	Sq Yd		Lb. Min.	Lb.	Char length	Max											
			(5041)	(5100)		(5132)														
			Min	Max		W	F	W	F		W	F					70°F	40°F		
Cloth, Coated (Chloroprene Base Coated, Chlorosulphonated Polyethylene Top Coated) MIL-C-43285 (GL)																				
Type I- Cloth, Polyester		Polyester conforming to Type I of MIL-C-43286.	Black base coating & green & white undercoating shall be chloroprene rubber plasticized only with phthalate or phosphate ester plasticizers. Pigmented. An organic isocyanate may be added to black base coating to achieve required adhesion.		13.0	15.0	(1)	160	160	3500	3000 (grams)	200	3	3	4.5	4.5	13	20	16 (dry)	No. 2
Class 1- Olive Green face, Black back.					13.0	15.0	(1)	160	160	3500	3000	200	3	3	4.5	4.5	13	20	12 (wet)	No. 2
Class 2- White face, Black back.					15.0	18.5	(1)	160	160	3500	3000	200	3	3	4.5	4.5	13	20	"	No. 2
Class 3- Olive Green face, White back.																				
Type II- Cloth, Nylon		Nylon conforming to Type II of MIL-C-43286.	Green and white top coating shall be chlorosulphonated polyethylene plasticized only with phthalate & phosphate ester plasticizers. Pigmented.		13.0	16.0	(1)	275	275	10000	10000	200					13	20	16 (dry)	No. 2
Class 1- Olive Green face, Black back.					13.0	16.0	(1)	275	275	10000	10000	200					13	20	12 (wet)	No. 2
Class 2- White face, Black back.					16.0	20.0	(1)	275	275	10000	10000	200					13	20	"	No. 2
Class 3- Olive Green face, White back.																				

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-43285	Class 1 cloth shall be coated in the sequence: (a)Each side coated with 2+.25 oz/sq yd of black base coating. (b)Face side coated with 2.7+.5 oz/sq yd of green undercoating. (c)Face side top coated with 2.25+.5 oz/sq yd of green top coating. Class 2 cloth shall be coated in the sequence: (a)Each side coated with 2+.25 oz/sq yd of black base coating. (b)Face side coated with 2.7+.5 oz/sq yd of white undercoating. (c)Face side top coated with 2.25+.5, -.25 oz/sq yd white top coat. Class 3 shall be coated in the sequence: (a)Each side coated with 2+.25 oz/sq yd black base. (b)Face coated with 2.7+.5 oz/sq yd of green undercoating. (Continued)	Color - Black base coat shall be pigmented a suitable shade of black. Green undercoating shall be pigmented to match Olive Green 207. White undercoating shall be pigmented to match color number 37875 of Fed. Std. 595. Green top coating shall be pigmented to match Olive Green 207. White top coating shall be pigmented to match color number 37875 of Fed. Std. 595. Standard samples available for all shades (3).	(4-5) (a)See spec. for requirements after testing. Coated cloth shall not become stiff, brittle, soft, or tacky, and there shall be no cracking or crazing when flat or folded sharply on itself by hand, face out, after acc. weathering. In addition, there shall be no appreciable change of color or exudation of plasticizer. (4.4.1.2).	Intended Use - In the manufacture of air supported shelter tents. Air supported shelter is constructed with 2 layers as follows: Class 1 cloth is used for the outer layer, and the Olive Green coated side of the cloth is exposed on the outside of the shelter. Class 2 cloth is used for the inner layer and the white coated side of the cloth is exposed on the inside of the shelter. Class 3 cloth is used for end closure areas.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specification	Type of Coating Compound	Overall Weight	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure High (5512)	Flame Resistance (5903)		Flexibility Ca. Max. Warp (5204)	Bursting Strength lb./2" wide (5122)	Adhesion lb./2" wide (5970)	Blocking Scale rating (5872)
			Oz./Sq Yd (5041)		Lb. Min. (5100)	Lb. (5132)		After Flame Min. (5512)	Char Length Max. (5512)				
			Min Max		W F	W F		W F	W F	70°F 40°F			
Cloth, Coated (Chloroprene Base) Coated, Chloroprene- Rubber Polyethylene Top Coating MIL-C-43285 (GL) (Continued)													

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-43285 (Cont'd)	(c)Face side top coated with 2.25+.5 oz/sq yd green top coating. (d)Back side coated with 1.25+.25 oz/sq yd of white undercoating. (e)Back side: top coated with 1.25+.5 -.25 oz/sq yd white top coating. All types and classes shall be dusted after coating and before vulcanizing with whiting, talc, or other finely divided mineral material which does not support mildew growth.			

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd		Width Inch	Breaking Strength Lb. Min.		Tearing Strength Lb.		Hydrostatic Pressure High	Flame Resistance (5803)		Flexibility Cm. Max. Warp	Bursting Strength Lb. Min.	Adhesion lb/2" wide	Blocking Tests		
			(5041)			(5100)		(5132)			(5512)	After Flame					Char Length	
			Min	Max	W	F	W	F	W	F	W	F	70°F	40°F				
Cloth, Coated, Cotton, Vinyl Chloride or Chloroprene Coated MIL-C-43410	Cotton silesia conforming to Type I of MIL-C-326. Requirement for seam efficiency shall not apply. Cloth to be coated with chloroprene rubber shall have a copper content of not more than 0.003% and a manganese content of not more than 0.0015%. pH: not less than 5.5.	Polymerized or copolymerized virgin vinyl chloride resin or chloroprene rubber. Vinyl compounds shall be plasticized with phosphate or phthalate ester plasticizers exclusively. All compounds shall be pigmented. Chlorinated paraffins and polychlorinated polyphenyls may be used as flame inhibitors. Use of water soluble ingredients and reclaimed rubber is prohibited.	12.0	14.0	(1)	50	50	480	480 (grams)	40	2	2	3.5	3.5	12	15	8	No. 2
(°°)																		
(initial)																		
2 2 5.0 5.0																		
(after acc. weathering)																		

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-43410	Cloth shall be coated on both sides. One side shall be coated with no more of coating compound than is necessary to meet water absorption requirement. Remainder shall be used on the other side. Coated cloth shall be fused or vulcanized as applicable. When chloroprene rubber is used, coated cloth shall be dusted on both sides with whiting, talc, or other finely divided mineral matter that does not support mildew growth.	Color - Base cloth: color shall be natural. Coated cloth: color shall be 00-207. Standard sample available (3).	(4) Coating shall show no indications of cracking, flaking, or separation from base cloth after acc. weathering. Chloroprene coated cloth shall not become soft and tacky or stiff and brittle after acc. aging (5852). Water absorption of both types: 1% max (5504).	Intended Use - In the manufacture of clothing to be used by fire fighting personnel.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width	Breaking Strength	Tearing Strength	Hydrostatic Pressure	Flame Resistance (5603)		Flexibility	Bursting Strength	Adhesion	Stocking Scale
			Oz./Sq Yd	Inch	Lb. Min.	Lb.	High	After Flame Length	Char Flame Length	Cn. Max.	Warp	Pts./In.	lb./2" wide
			(5041)		(5100)	(5132)	(5512)						
			Min Max		W F	W F		W F	W F	70°F 40°F			
Cloth, Silica, Phenolic Impregnated MIL-C-81251 (W/F)	Silica cloth conforming to CS 9349, Type II, except that it shall contain a min. of 96% silica.	Phenolic resin conforming to MIL-R-9299, Type II, Class 2.											

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-81251			(4) Uncured resin-impregnated cloth shall contain 28±3% resin solids by weight. Uncured resin-impregnated cloth shall contain 4-7% volatile matter by weight. Uncured resin-impregnated cloth shall have a resin flow of 15-21%. Cured cloth shall have a min. ave. flexural strength of 19000 psi at 75±5°F. No individual value shall be below 13000 psi (method 1031 of Fed. Std. 406). Cured cloth shall have min. ave. tensile strength of 12000 psi at 75±5°F. No individual value shall be below 11000 psi (method 1011 of Fed. Std. 406). Cured cloth shall have a min. specific gravity of 1.67 (method 5011 of Fed. Std. 406).	Intended Use - In rocket motors.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight Oz/Sq Yd (504i)	Width Inch	Breaking Strength Lb. Min. (5100)	Tearing Strength Lb. (5132)	Hydrostatic Pressure High (5512)	Resistance (59)	Flexibility Cm. Max. Warp (5204)	Bursting Strength Lb. Min. (5122)	Adhesion lb/2" wide (5570)	Blocking Scale (5572)
			Min Max		W F	W F		W F	W F	70°F 40°F		

Cloth, Coated,
Asbestos and Cotton,
Herringbone Twill,
Aluminized

MIL-C-82249A

Woven from yarns of blend of asbestos & cotton (Underwriter's Grade). Weight: 18.0-20.5 oz. Yarns/Inch: 33-37 in the warp; 24-29 in the fill. Weave: 3/1 herringbone twill reversing on 15 ends. Asbestos content: 80% min.

- 24.0 (1) 105 78 9 6

1 - .5 -

No. 1

Cloth, Coated,
Glass, Chloroprene Coated

MIL-C-82254

Glass cloth conforming to Class C, form 4, Fiber D, Cloth No. 116 of MIL-Y-1140.

Chloroprene rubber, plasticized. Pigmented.

24.0 28.0 (7) 38 120 120 2700 1100 250 (grams) (initial) 200 (after weatherometer)

5 No. 3

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-82249A	Coating shall be applied to face of cloth (warp flush side) by means of a suitable adhesive. Resulting film shall have a highly reflective surface and shall be abrasion resistant.		(4) Stiffness, Bending moment: 0.055 in-lb. max. in warp and fill (5202). There shall be no separation of coating from base cloth (4.4.3). Coating shall not crack at low temps. (4.4.2). Reflectivity after abrasion: No visual discoloration of blotting paper; no evidence of flaking of coating (4.4.1).	Intended Use - In the manufacture of protective clothing for fire-fighters and other heat protective, proximity garments.
MIL-C-82254	Compound shall be applied equally & uniformly to both sides of cloth. Coated cloth shall be cured. After vulcanizing, cloth shall be dusted with whiting, talc, other finely divided mineral material which does not support mildew growth.	Color - Coated cloth shall match Black Number 770 of Fed. Std. 195 or shall match approved color standard (3).	(4) Thickness: 0.022-0.026 in. Selvage edges may be trimmed, provided cloth meets specified width.	Intended Use - In the manufacture of protective coverings and items having similar uses. Cloth is not intended for use in wearing apparel or other items which may come in frequent or prolonged intimate contact with skin.

COATED CLOTHS

NOMENCLATURE	Base Cloth Specifications	Type of Coating Compound	Overall Weight	Width Inch	Breaking Strength	Tearing Strength	Hydrostatic Pressure	Flame Resistance (5903)		Flexibility	Bursting Strength	Adhesion	Blocking
			Oz./sq Yd		Lb. Min.	Lb.	High	After Flame Test	Char Length Max.	Cm. Max. Warp	Psi Min.	R/2" wide	Scale rating
			(5041)		(5100)	(513E)	(5512)	sec. Min.	Max.	(5204)	(5122)	5970	5872
Cloth, Coated, Synthetic Rubber (Nitrile and Polychloroprene MIL-C-82255 (NAVY))			Min	Max	W	F	W	F	W	F	70°F	40°F	
Type I- Cloth, Nylon, Flat Knit, Polychloroprene Coated.	Nylon, flat knit. Weight: 6.5-1.0 oz/sq yd.	Polychloroprene rubber. No natural rubber, reclaimed rubber, or synthetic rubber other than polychloroprene shall be used. Plasticized. Pigmented.	- 19.0	(1)			70 (initial) 65 (after weatherometer)				(5120) 100	5	No. 3
Type II- Cloth, Cotton, Duck, Polychloroprene Coated.	Cotton duck conforming to Type I, No. 10, hard texture of CCC-C-419.	Polychloroprene rubber other than polychloroprene shall be used. Plasticized. Pigmented.	49.0 59.0	(1)	245 160	4000 2500	250 (grams) (initial) 250 (after weatherometer)					5	No. 3
Type III- Cloth, Cotton, Duck, Nitrile Coated.	Cotton duck conforming to Type I, No. 10, hard texture of CCC-C-419.	Nitrile rubber. No natural, reclaimed, or synthetic rubber other than nitrile shall be used. Plasticized. Pigmented.	- 43.0	(1)	245 160	4200 3000	250 (initial) 200 (after weatherometer)					5	No. 3
Type IV- Cloth, Cotton, Airplane, Polychloroprene Coated.	Cotton airplane cloth conforming to MIL-C-5646, except requirements for length of roll, cut, and dope shall not apply.	Polychloroprene rubber. See above.	24.5 29.5	(1)	90 90	900 800	150 (initial) 150 (after weatherometer)					5	No. 3

NOMENCLATURE	COATING	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as thickness, Shrinkage, etc.)	NOTES (Not Specification Requirements)
MIL-C-82255 Type I Type II Type III Type IV	Coating shall be applied equally and uniformly to both sides. Coated cloth shall be cured. After vulcanizing, cloth shall be dusted with whiting, talc, or other finely divided mineral material which does not support mildew growth.	Color - Coated cloth shall match Black number 27038 of Fed. Std. 595 or the approved color standard (3).	(4) Thickness- Type I- 0.021 in max. Type II: 0.047-0.053 in. Type III: 0.038-0.062 in. Type IV: 0.023-0.027 in. The selvage edges may be trimmed, provided cloth meets specified width.	Intended Use - As a protective covering and repairing fuel cells.

REFERENCES

COATED CLOTHS

Textile Test Methods - CCC-T-191b

<u>Method</u>	<u>Title</u>
<u>Chemical</u>	
2811	Acidity (pH), Potentiometric method.
<u>Construction</u>	
5030	Weight of cloth.
5041	Weight of cloth; small specimen method.
<u>Mechanical</u>	
5100	Strength and elongation, breaking, of woven cloth, grab method.
5102	Strength and elongation, breaking, of woven cloth, cut strip method.
5104	Strength and elongation, breaking, of woven cloth, ravel strip method.
5120	Bursting strength, ball method.
5122	Bursting strength, diaphragm.
5132	Tearing strength, pendulum method (Elmendorf).
5134	Tearing strength, tongue method.
5136	Tearing strength, trapezoid method.
5202	Stiffness, direct; cantilever bending method (Tinius Olsen).
5204	Stiffness, directional; self-weighting cantilever method (Clark).
5304	Abrasion resistance; oscillatory cylinder (Wyzenbeek) method.
5306	Abrasion resistance of cloth, rotary platform, double head (Taber) method.
<u>Air Permeability and Water Resistance</u>	
5450	Air permeability, calibrated orifice method (Frazier).
5504	Water resistance, (coated cloth) spray absorption.
5512	Water resistance, (coated cloth) hydrostatic pressure, high range.
5516	Water resistance, hydrostatic pressure, water permeability.
<u>Shrinkage Resistance</u>	
5552	Shrinkage in laundering; cloth other than cotton and linen.
<u>Colorfastness</u>	
5614	Laundering of wool, silk, rayon cloth; Launder-Ometer.
5630	Water, cold.
5651	Crocking of cloth.
5660	Light; accelerated (Fade-Ometer).
<u>Mildew Resistance</u>	
5762	Mildew resistance; soil burial method.
<u>Deterioration Tests</u>	
5804	Weathering; accelerated (National Weather Unit).
5831	Leaching; minimum exposure.
5850	Aging; accelerated oven method.
5852	Aging; accelerated oxygen method.
5870	Flexibility after heat.
5872	Temperature, high; blocking.
5874	Temperature, low; coated cloth.
<u>Fire-Resistance Thermal Tests</u>	
5903	Flame resistance of cloth; modified vertical.
5910	Burning rate of cloth; 30° angle.
<u>Adhesion, Coated Cloths</u>	
5950	Adhesion, plied (double texture) cloths.
5970	Adhesion of coating; solvent method.

GENERAL NOTES

CORDAGE

The following parenthetical numbers are utilized throughout this section of the text as referenced notes. Upon observing these numbers, refer to this page for further information dealing with specific portions of the item.

- | | |
|---------------------------|---|
| (1) As specified. | (4) Sulfur dyes. |
| (2) Preproduction sample. | (5) Nonfibrous, extractable matter, chloroform soluble. |
| (3) Color matching. | (6) See specification for applicable tolerances. |

The specific test methods referenced in this section of the text are listed with their titles at the end of the section.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circum- ference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Ends per Carrier Min.	Picks per Inch Min.
Laces, Footwear, Cotton						Min Max.	W F				
V-L-51b											
Type I- Mercerized		Width (+1/32")									
Class A	54/2	7/32		44			70			2	32
Class B	50/2	7/32		64			70			1	38
Class C	40/2	7/32		44			70			2	26
Type II- Soft fin.											
Class A	20/2	8/32		32			120			2	16
Class B	20/2	11/32		44			150			2	16
Type III- Glazed fin.											
Class A	20/2	8/32		32			120			2	16
Class B	20/2	11/32		44			150			2	16
Type IV- Waxed fin.											
Class A	24/2	7/32		40			110			2	22
Class B	26/2	7/32		44			110			2	22
Class C	30/2	7/32		48			110			2	24
Class D	28/2	10/32		44			110			2	16
	30/2										

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
V-L-51b	Type I laces shall have a smooth and silky luster.	Color (1-4), Standard sample available (2V).	(2) The braid for the laces shall be tubular braided without a core using 2 over and under braiding. Braid shall be pressed flat.	Intended Use - In footwear and other items.
Type I	Type II laces shall have a soft finish. Type III laces shall have a glazed, smooth	Colorfastness - standard sample available (4620).		
Class A	glossy finish. Type IV laces shall be waxed by immersion in a molten wax solution.			
Class B	Wax shall thoroughly saturate and be evenly distributed.			
Type II	After waxing, laces shall increase in weight not less than 17.5 nor more than 33.5%.			
Class A	Finished lace shall contain a min. of 0.04% to a max. of 0.09% metallic copper as copper-8-quinolinolate. See spec. for types of waxes and wax solution amounts.			
Class B	pH: (All types and classes) 4.0 - 8.0 (2811).			
Class C				
Class D				

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Ends Per Carrier Min.	Picks Per Inch Min.
Laces, Footwear, Nylon V-L-61d						Min Max.	W F				
Type I- Spun nylon		Width (+1/32")									
Class 1- 7/32" wide, flat		7/32		44			95			1	33
Class 2- 10/32" wide, flat		10/32		44			175			2	26
Type II- Bulked filament nylon											
Class 1- 3/32" diameter, round			3/32 (+1/32)	16			100			3	28
Class 2- 8/32" wide, flat		8/32		44 (carriers braiding in pairs)			190			2	17

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
V-L-61d Type I Class 1 Class 2 Type II Class 1 Class 2		Color (1). Standard sample available (3). Colorfastness - standard sample available (.680).	Nylon for Type I, Classes 1 and 2 shall be spun from nylon staple and twisted into 2-ply yarn. Nylon for Type II, Classes 1 and 2 shall be a 210 denier filament yarn which has been increased to give 270-350 denier by air spinning. Braid shall be tubular braided without a core, with 2 over and 2 under, except for Type II, Class 2 which shall braid 1 pair over and 1 pair under. Type I, Classes 1 and 2, and Type II, Class 2 braid shall be pre-dried flat. Type II, Class 1 braid shall not be pre-dried and shall be round.	Intended Use - On various types of footwear.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circum- ference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Ends Per Carrier	Picks Per Inch Min.
						Min Max.	W F				
<u>Halyards, Signal,</u> <u>Braided, Treated</u> MIL-H-266C, Amd. 1											
Type I- Cotton		($\pm 1/8"$)									
Class 1- Without core											
3/4"		3/4		8	35'		500			4	2-3/4
1"		1		8	23'		750			6	2-1/2
Class 2- With core											
1-1/4"		1-1/4		12	19'		675		45% max.	23	2-1/4

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-H-266C Type I Class 1 Class 2	(5) Class 1 halyards shall be mildew resistant treated with copper-8-quinolinolate con- forming to T-T-616. Class 2 halyards shall be mildew resistant treated with cop- per-8-quinolinolate conform- ing to T-T-616. They shall be a water resistant treated with a solution of amorphous wax or paraffin wax, mineral oil, asphalt, pigments (when required), and a volatile sol- vent. Use of gilsonite, petro- latum or equivalent products is permitted. Halyards shall not produce oily stains (4.2. 5.5). Use of casein, glue, gum, starch, dextrin, water- soluble materials, paint dry- ers, resin or vegetable oils, oxidizing oils or resins modi- fied with such oils and fin- ishing or loading materials to specifically increase weight or breaking strength is prohibited.	Color - Shall be that naturally resulting from the treatment.	Class 1 halyards shall be braided without core from a min. of 9-ply cotton yarn. Class 2 halyards shall be firmly braided around a cot- ton core from a min. of 3- ply cotton yarn. Number of strands in core: 23. Class 2 halyards may be braided with 18 carriers with 15 ends per carrier.	

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Ends Per Carrier	Picks Per Inch Min.
<u>Laces, Leggings</u> MIL-L-396C (8A)					Weight/144 yds.	Min Max.	W F				
		3/32 ± 1/64		9 or 16	21-24 oz.		70			8 or 3	8 or 16
<u>Lines: Shot (For)</u> <u>Line-Throwing-Guns</u> T-L-411a											
		(± 1/64)			Length/ lb. min.					Strand	Elongation Load Lb.
Type I- Flax- Cable laid											
Class 1- Natural											
		1/8			175'		350	15		3	260
		7/32			75'		700	15		3	520
		9/32			45'		1150	15		3	850
Type II- Nylon- Braided with core											
Class 1- Natural											
		1/16			570'		230	32		-	180
		13/64			100'		1200	30		-	300
Class 2- Waxed											
		3/32			400'		415	15		8	370

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-L-396C	(5) Laces shall be smoothly finished and polished.	Color - White 3941 or Khaki 3727 (1). Standard samples available (3). Khaki laces shall be yarn dyed with vat dyes. (1) Yarns of white laces shall be fully bleached. Bleaching agents may be used. Colorfastness- Khaki laces: standard sample available (4630-4650-4670).	(2) Yarns shall be 2-ply cotton. Laces shall be firmly & uniformly braided without a core. When braiding with 9 carriers, weave shall be over 2 and under 1 (sash cord weave), and when braiding with 16 carriers, weave shall be over 2 and under 2.	Intended Use - As a closure for leggings worn by personnel of the Navy and Coast Guard.
T-L-411a Type I Class 1 Type II Class 1 Class 2	(5) Class 1 line shall have a soft natural finish. Class 2 line shall have a waxed finish.	Color - Unless otherwise specified, color shall be natural. When specific color is required, color shall be as specified. Standard sample available (3). Colorfastness - standard sample available for dyed line (4671).	Type I line shall be fabricated from flax fiber. Type II line shall be fabricated from nylon fiber having a min. melting point of 244°C. Loss in breaking strength after heat aging shall not exceed 10% of initial (-102).	Intended Use - In the operation of line throwing guns.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Yarns Per Carrier Min.	Wgt. of Core in Total Wgt. of Cord
Cords, Cotton; General and Special Purpose, Sash and Venetian Blind T-C-571d						Min. Max.	W F			Min. Max.	
Type I- General purpose and sash cord (dyed and undyed)						No. of Core Yarns					
Class 1- Natural fin.						Class 1		Class 1			
Class 2- Polished fin.						Classes 2 & 3		Classes 2 & 3			
Class 3- Water & mildew resistant fin.											
Sizes:											
	4		1/8	9	201'	171'	100	10	8	2	5
	5		5/32	9	100'	85'	160			4	5
	6		3/16	12	66'	55'	240			4	5
	7		7/32	12	54'	45'	300			5	5
	8		1/4	12	44'	37'	370			6	5
	10		5/16	18	27'	23'	560			10	5
	12		3/8	18	20'	17'	720			12	5
	16		1/2	18	11.7'	10'	1250			14	5
Type III- Venetian blind cord (dyed and undyed)						9/64	8	2	175	45% max.	6
Type IV- Special purpose cord (natural or bleached)											
Class 4- Polished and water resistant						5/32	12	8.3'	5.3 ply	180	7
										8% max.	5.2 ply
Type V- Mail bag lacing cord											
Class 5- Special polished finish						0.167-0.180	12	90.0'	5	240	13.5

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
T-C-571d	(5)	Color - Types I & V, Classes 1, 2, & 3: Unless otherwise specified, cord shall be natural, unbleached. For specific color is required, it shall be obtained by yarn dyeing & shall match standard sample. Class 3: Unless otherwise specified, color of Class 3 cord shall be that imparted by treatment. When a shade is specified, it shall be obtained by yarn dyeing and shall match standard sample. Type III: Unless otherwise specified, color for Type III shall be off-white app. matching color No. 12690 of Fed. Std. 595. Type IV- Color shall be natural (bleached yarn is acceptable).	Cord shall consist of cotton yarns firmly and evenly braided around a cotton core. Types I and V shall be a solid braid weave. Yarn strand in jacket for Type V: 5. After water absorption, the thickness increase of Type I, Class 3 shall not be more than 10%. Elongation after water immersion of Type IV shall be not more than 1%. Use of casein, glue, gum, starch, dextrin, water-soluble materials, paint driers, resin or vegetable oils, oxidizing oils or resins modified with such oils is prohibited with the exception of materials necessary for polishing Class 2 cord.	Intended Use - Type I, Sizes 6, 7, 8 and 10 are intended for use with pulleys (See spec. for sizes of pulleys and max. loads). Type I, Class 1, Size 6 is intended for clotheslines. Type I, Class 3 cord is recommended for outdoor use. Type I cord may also be used for tent ropes, awning line, truck rope, lashing, elevator gate cord, and for overhead doors. Type IV, Class 4 (special purpose cord) is used for medical applications for applying traction in fracture frames.
Type I	Class 1- Natural finish, in which no consistency or luster other than that inherent within the cotton cloth is required. Class 2- Polished finish cord shall have a lustrous, smooth-dressed surface with no protruding fibers. All finishing and glazing materials shall be added after braiding. Class 3- Mildew resistant treated with copper-8-quinolinolate in conformance with T-T-616. It shall be water resistant treated with a solution of amorphous wax or paraffin wax, mineral oil, asphalt, pigments (when required) and a volatile solvent. Use of pilsenite, petrolatum or equivalents will be permitted. Class 4- water resistant treated, which will also produce a smooth, lustrous surface with no protruding fibers. Class 5- given a Class 2 polished finish. Core yarns shall be impregnated with a 20% aqueous polyvinyl acetate. (5)	Colorfastness- To be specified in applicable test method.		
Class 1				
Class 2				
Class 3				
Type III				
Type IV				
Class 4				
Type V				
Class 5				

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circum- ference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	
Rope; Cotton T-R-00571b						Min Max.	W F			

Class 1- Natural

Class 2- Mildew
Resistant Treated

Sizes:	(nominal)			
	3/8		200'	120
	5/8		90'	250
	3/4		52'	420
	1-1/8		23 1/2'	890
	1-1/2		13 1/2'	1450
	2-1/4		6'	3100
	3		3 1/2'	5100

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
T-R-00571b Class 1 Class 2	(5) Class 1 rope shall be natural. Class 2 rope shall be mildew resistant treated with copper- 8-quinolinolate conforming to the requirements of T-T-616, except that the permissible copper content shall be 0.13- 0.40% copper as copper-8- quinolinolate.	Color - Unless other- wise specified color of the rope prior to treat- ment shall be natural. After treatment, the shade imparted by the treatment will be acceptable.		

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circum- ference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	
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Cords, Yarns and
Monofilaments Organic
Synthetic Fiber
MIL-C-572E, Amd. 2

Min | Max. W | F

Type P- Polyamide.

Type SAR- Saponified
acetate rayon (Forms
C and Y only).

Type VC- Copolymer of
vinylidene chloride
and vinyl chloride
(Form MF only).

Type PVCA- Polyvinyl
chloride and its
copolymers (Form MF
only).

Type AR- Cellulose
acetate (Forms C and
Y only).

Type VCP- Viscose
rayon (Forms C
and Y only).

Type CTA- Cellulose
triacetate (Forms C
and Y only).

Form C- Cordage.
Form Y- Yarns.
Form MF- Monofilaments.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
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MIL-C-572E
Type P
Type SAR
Type VC
Type PVCA
Type AP
Type VCP
Type CTA
Form C
Form Y
Form MF

Color - Unless otherwise
specified, color shall
be natural.

Material shall consist of a
suitable synthetic properly
formulated with plasticizers
pigment, lubricants, or other
materials as may be necessary
to conform to the specifica-
tion. See spec. for table of
property values of synthetic-
fiber electrical insulation.

Intended Use- Type P: For
applications requiring high
tenacity, moisture resistance,
and recovery. It is employed in
lieu of silk in fiber sizes of
magnet wire and cable appli-
cations. Should not be used
outdoors. Type SAR: for appli-
cations requiring a very high
dry tenacity and heat resistance.
Type VC: For applications re-
quiring a relatively high ten-
acity and very high moisture
resistance. Type PVCA: For
cordage applications requiring
a high degree of elongation
and good elastic recovery.
Type AR: For applications not
requiring high tenacity, but
where use may be made of its
dyeing properties, sea-water
resistance, and thermoplastic
properties. Type VCP: for
applications requiring high
tenacity and ability to take
high degree of twist. Type CTA:
where high electrical resis-
tivity and high moisture resistance
are required.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	
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Rope, Jute T-R-592a (nominal)(Approx.)						Min Max.	W F			
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Type I- Pure
jute rope

Type II- Mixed
jute rope

Class 1- Natural
Class 2- Mildew
resistant treated
Sizes:

						Type I	Type II
	5/8	3/16	6	66.6'		270	243
	3/4	1/4	6	50.0'		360	324
1	5/16		9	34.5'		600	540
1-1/8	3/8		12	24.4'		810	729
1-1/4	7/16		15	19.0'		1050	945
1-1/2	1/2		21	13.3'		1590	1431
1-3/4	9/16			9.61'		2070	1863
2	5/8			7.5'		2640	2376
2-1/4	3/4			6.0'		3240	2916
2-1/2	13/16			5.13'		3900	3510
2-3/4	7/8			4.45'		4620	4158
3	1			3.71'		5400	4860
3-1/4	1-1/16			3.20'		6300	5620
3-1/2	1-1/8			2.78'		7200	6480
3-3/4	1-1/4			2.40'		8100	7290
4	1-5/16			2.09'		9000	8100
4-1/2	1-1/2			1.67'		11100	10000
5	1-5/8			1.34'		13500	12150
5-1/2	1-3/4			1.12'		15900	14300
6	2			0.93'		18600	16700

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
T-R-592a Type I Type II Class 1 Class 2	(5) Class 1 rope shall be natural. Class 2 rope shall be mildew resistant treated with copper- 8-quinolinolate. Treatment shall conform to the require- ments of T-T-616, except that the permissible copper content shall be 0.15-0.40% copper as copper-8-quinolinolate.	Color of the untreated rope is natural. Nat- ural shade imparted by mildew resistant treat- ment will be acceptable.	For Type I, no other fiber than jute (Corchorus capsu- laris, or Corchorus olitor- us) shall be used. Type II fiber shall consist of jute which may be blended with other bast oristle fiber or both. Rope shall be 3- strand unless otherwise specified.	

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	
Rope, Manila and Sisal T-R-605b, Amd. 1						Min Max.	W F			
Type M- Manila (Musa textilis) Class 1- "Becker" rope value Class 2- "Non-Becker" rope value										
Type S- Sisal (Agave sisalana)		(nominal)	(approx) (nominal)				Manila	Sisal		
Sizes:	5/8	3/16	6	66.6'	450	360				
	3/4	1/4	6	50.0'	400	300				
1		5/16	9	44.5'	1400	1100				
1-1/8		3/8	12	24.0'	1450	1150				
1-1/4		7/16	15	19.0'	1500	1200				
1-1/2		1/2	21	13.0'	2050	1650				
1-3/4		9/16		9.0'	2450	2050				
2		5/8		7.50'	3000	2500				
2-1/4		3/4		6.00'	3500	3000				
2-1/2		13/16		5.13'	4000	3500				
2-3/4		7/8		4.45'	4500	4000				
3	1			3.91'	5000	4500				
3-1/4	1-1/16			3.40'	5500	5000				
3-1/2	1-1/8			3.08'	6000	5500				
3-3/4	1-1/4			2.80'	6500	6000				
4	1-5/16			2.50'	7000	6500				
4-1/2	1-1/2			2.25'	7500	7000				
5	1-5/8			2.00'	8000	7500				
5-1/2	1-3/4			1.80'	8500	8000				
6	2			1.60'	9000	8500				
7	2-1/4			1.40'	9500	9000				
8	2-5/8			1.25'	10000	9500				
9	3			1.10'	10500	10000				
10	3-1/4			1.00'	11000	10500				
11	3-5/8			.90'	11500	11000				
12	4			.80'	12000	11500				
Manila Hard-lay rope, 3-strand - Sizes:										
	3-1/2	1-1/2		2.00'	11000					
	4	1-5/4		1.800'	12000					

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
T-R-605b Type M Class 1 Class 2 Type S	Manila and sisal rope require low mildew resistant treatment shall be treated in accordance with T-T-11.		Type M rope shall be made from Musa textilis fiber. Type M, Class 1 rope shall have a "Becker" value of not less than 45 for rope 1/2 - 1 1/2 in. in circumference, and for larger than 1 1/2 up to 1 3/4 in. and larger in circumference. Type S rope shall be made from Agave sisalana fiber. Unless otherwise specified, rope shall be - strand, three - strand, five - strand rope shall be four - strand, six - strand rope shall be five - strand, and all rope of less than 1/2 inch circumference shall be - strand rope of the same size.	

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circum- ference Inches	Diameter Inches	Number of Strands (Carriers) Max.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	
Rope, Yarn, and Twine; Hemp						Min Max.	W F			
T-R-00675a (Army-GMC)										
Type I- Rope, hemp, tarred.										
Class 1- Ratline										
Sizes:										
		(6)								
		3/4		6	33.3'		600)			
		1		9	23.8'		900)			
		1-1/8		12	17.3'		1400)			4106
		1-1/4		15	13.3'		1800)			
		1-3/8		18	11.3'		2100)			
		1-1/2		21	10.0'		2400)			
Class 2- Seizing										
Sizes:										
		1/2		4	63.2'		365			
		5/8		6	50.0'		560			
		7/8		9	36.4'		700)			4106
		1		12	28.6'		955)			
Type II- Twine, hemp, polished, stainless										
Sizes:										
	12				1710.0'		31			
	18				990.0'		49			
	24				855.0'		67			
	36				570.0'		105			
	48				427.0'		145			
	60				290.0'		190			
Type III- Yarn, hemp, unfinished										
Sizes:										
	1				350.0'		180			
	2				430.0'		145			
	3				490.0'		120			
	4				600.0'		95			
(Continued)										

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
T-R-00675a	Type I rope shall be tarred with pine tar. Tar shall be uniformly distributed throughout and shall not impart excessive stickiness to the rope. Extractable matter: 10-22%. Type II twine shall be polished and stainless. Type III yarn shall be stainless.		Rope, yarn, and twine shall be made from hemp (Cannabis sativa) flax, or a combination of flax & ramie fiber. Type I rope shall be 3-strand except for Class 2, No. 1 rope, which shall be 2-strand. Type II twine shall be of plied yarn.	

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circum- ference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min.	Elongation % Max.	Water Absorption	
							(4102)	(4102)	(4502)	
						Min Max.	W F			
Rope, Yarn, and Twine; Hemp (Continued) T-1-00675a (Army-QMC)										
Type IV- Yarn, plied, hemp tarred Class 1- Marline Types: Navy Commer. Medium Class 2- Spun yarn Types: 2-ply 3-ply Class 3- Houseline Types: Houseline Navy houseline Class 4- Roundline										
						180.0'	175			
						220.0'	160			
						360.0'	105			
						120.0'	215			
						85.0'	305			
						160.0'	170			
						120.0'	225			
						90.0'	300			

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
T-1-00675a (Cont'd) Type IV Class 1 Class 2 Class 3 Class 4	Type IV yarn shall be tarred (See Type 1).		Type IV: Marline shall be 2-ply. Type IV, Class 3 yarn shall be 3-ply. Type IV, Class 4 yarn shall be 3-ply.	

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	
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Twine, Impregnated,
Lacing and Tying (For
Use in Electrical and
Electronic Equipment
MIL-T-713C

Min Max. W F

Type N, waxed-
Vegetable fiber
Class 1
Class 2
Class 3

300'
450'
600'

70
48
32

15
15
15

Type P, unwaxed-
Polyamide (nylon)
Class 1
Class 2
Class 3

650'
950'
1400'

70
48
32

20
20
20

Type P, waxed-
Polyamide (nylon)
Class 1
Class 2
Class 3

550'
750'
1100'

70
48
32

20
20
20

Type SAR- Sapon-
ified acetate
Class 1
Class 2
Class 3

650'
910'
1280'

70
48
32

5
5
5

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
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MIL-T-713C

Type N
Class 1
Class 2
Class 3
Type P (unwaxed)
Class 1
Class 2
Class 3
Type P (waxed)
Class 1
Class 2
Class 3
Type SAR
Class 1
Class 2
Class 3

Type N shall be uniformly mildew resistant and microcrystalline wax treated. Mildew resistant treatment shall conform to Type I, Class 2. Inhibitor of MIL-T-3570 and may be applied with wax treatment. Treatment utilized shall not contain copper or mercury. Wax content: 10-25%. Type P waxed twine shall be uniformly treated with a microcrystalline fungicidal wax. Treatment shall not contain copper or mercury. Wax content: 20-30%. N mildew growth on surface (4.5.3).

Color - Unless otherwise specified, color shall be the natural unbleached color of the fiber & as naturally resulting from the treatment.

Type N shall be made from cotton, flax, soft hemp, flax and soft hemp, or flax and ramie fiber. It shall be constructed of singles yarn. Type N twine shall not deflect more than 1/8 in. (4.2.5.2). Fiber of Type P, unwaxed and Type P, waxed shall conform to Type I, Form C of MIL-C-572. The yarns shall be continuous filament. Fiber of Type SAR twine shall conform to Type SAR, Form C of MIL-C-572. The yarns shall be continuous filament.

Intended Use- Type N: For use where it is desired that heat have no effect on strength or elongation, and where a relatively stiff twine is required. Type P twine is a strong, lightweight twine suitable for applications at relatively high humidity. Type SAR is a strong, lightweight twine suitable for applications where high temperatures and humidities are not encountered. Has a min. stretch under tension.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circum- ference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	
<u>Twine, Cotton, Wrapping</u> T-T-871d						Min Max.	W F			
Type I- Natural										
Type II- Mildew resistant										
Class 1- Copper- 8-quinolinolate										
Class 2- 2,2, methylenebis- (4-chlorophenol)										
Sizes (Plies):										
		3			6000'			5.5		
		4			4500'			8		
		5			3600'			10		
		6			3000'			12		
		8			2250'			16		
		12			1500'			24		
		16			1125'			32		
		20			900'			40		
		24			750'			48		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
T-T-871d Type I Type II Class 1 Class 2	(5) Type I twine shall have a natural finish. Type II, Class 1 twine shall be mil- dew resistant treated with copper-8-quinolinolate in accordance with Type I, Class 1 of MIL-T-3520. Type II, Class 2 twine shall be mildew resistant treated with 2,2 methyl- enebis-(4-chlorophenol) in accordance with Type I, Class 2 treatment of MIL-T-3520.	Color- Unless otherwise specified, twine shall be furnished in natural color. Color of treated twine shall be that imparted by treatment to natural colored twine.		Intended Use - For general purpose use.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circum- ference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Plies Per Strand
Twine, Cotton, Seine						Min	Max.	W	F	
T-T-881c										
Type I- Natural										
Type II- Mildew										
Resistant										
Size (Number):										
	6				3000'		12			2
	9				2055'		18			3
	12				1545'		24			4
	15				1245'		30			5
	18				1020'		35			6
	24				780'		45			8
	30				600'		60			10
	36				510'		70			12
	48				375'		86			16
	72				255'		124			24
	84				210'		140			28
	96				175'		156			32
	108				165'		172			36
	120				150'		188			40
	144				135'		214			48
	168				105'		238			56

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
T-T-881c Type I Type II	(5) Type I shall have a natural finish. Type II twine shall be mildew resistant treated in accordance with Type I, Class 1 treatment of MIL-T-3530.	Color - Unless otherwise specified, color of twine shall be natural. Color of Type II shall be that imparted by mildew resistant treatment on natural colored twine.		Intended Use - For general purpose use.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circum- ference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Ply
Twine, Linen						Min	Max.	W	F	
T-T-891c										
Type I- Natural finish, fine twine					2280'		35			3
Plies: 3					1710'		50			4
4					1368'		65			5
5										
Type II- Natural finish, mildew resistant, fine twine					2280'		35			3
Plies: 3					1710'		50			4
4					1368'		65			5
5										
Type III- Polished finish, fine twine					3000'		29			2
Type IV- Polished finish, mildew resis- tant, fine twine					3000'		29			2
Type V- Natural finish rope twine				4	120'		325			2
Type VI- Natural finish, mildew resistant, rope twine				3	120'		325			2
Type VII- Natural finish twine					400'		170			5
Type VIII- Natural finish, mildew resis- tant twine					300'		170			5

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
T-T-891c Type I Type II Type III Type IV Type V Type VI Type VII Type VIII	Type I shall have a natural finish. Type II shall be mildew resistant treated in accordance with Type I, Class 1 of MIL-T-530. Type III twine shall be polished and have a lustrous, smooth dressed surface. Type IV twine shall be polished and shall be mildew resistant in accordance with Type I, Class 1 of MIL-T-530. Type V shall have a natural finish. Type VI twine shall be mildew resistant treated in accordance with T-T-16. Type VII twine shall have a natural finish. Type VIII twine shall be mildew resistant treated in accordance with Type I, Class 1 of MIL-T-530.	Color- Unless otherwise specified, color shall be natural. When mildew resistant twine is specified, color shall be that imparted by the treatment to natural colored twine.		Intended Use- For sails, baling, mattress stitching, and wrapping.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Tensile Strength Lb. Min.	Elongation % Max.	Water Absorption	
							(4102)	(4102)	(4502)	

Twine, Jute
T-R-911d, Am. 2

Min Max W/F

Type I- Natural fin.
Size No.

1	1710'	20
2	1140'	32
3	855'	43
4	685'	54
5	570'	65
6	285'	125
7	170'	210
7A	140'	260
8	105'	335
9	85'	420

Type II- Polished fin.
Size No.

1	1620'	25
2	1080'	40
3	800'	55
4	590'	75
5	440'	100
6	350'	125
6A	195'	155
7	140'	215
8	110'	270
9	85'	350

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
T-R-911d Type I Type II	Type I twine shall have a natural finish. Type II polished twine shall have a smooth dressed surface.	Color - Twine shall be natural.	Twine shall be made of jute (Corchorus Olitorius or Corchorus Capsularis of both) or kenaf (Hibiscus Cannabinus). Twine shall be stainless when tested (4.2.5.1). Twine shall be not less than 2-ply.	Intended Use - For wrapping purposes.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Ply
Twine, Cotton, Mattress T-T-931b					1575'	Min Max.	W F 32			6
Lines, Cotton, Braided Lead Lines and Taffrail Log Line MIL-L-1145C		3/4 (±1/8)		12	60'		220			14

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
T-T-931b	Twine shall have a waxed polished finish and smooth dressed surface.	Color- Unless otherwise specified, color shall be natural or tan.		Intended Use- For tufting mattresses by hand or machine.
MIL-L-1145C	(5) Use of casien glue, starch, dextrin, water-soluble materials, paint dryers, resin or vegetable oils, oxidizing oils or resins modified with such oils to specifically effect breaking strength or length per pound is prohibited.	Color- Unless otherwise specified, color of the line shall be natural.	Lines shall be evenly braided around a cotton core.	Intended Use- As lead or taffrail log lines.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min.	Elongation % Max.	Water Absorption	Yarns Per Strand Min.
							(4102)	(4102)	(4502)	
<u>Rope, Tent-Lay</u> MIL-R-1670C		(Nominal)		(b)	(a)	Min Max.	W F (4106)			
Type I- Rope, Manila, Tent-Lay	3/4			3	55.55'		630			2
	1			3	38.46'		1030			3
	1-1/8			3	27.02'		1410			4
	1-1/2			3	14.70'		2720			7
	2			3	8.33'		4360			7
	2-1/4			3	6.66'		5560			7
	3			3	4.11'		9260			7
	3-3/4			3	2.65'		13900			7
Type II- Rope, Sisal, Tent-Lay	3/4			3	55.55'		500			2
	1			3	38.46'		830			3
	1-1/8			3	27.02'		1130			4
	1-1/2			3	14.70'		2170			7
	2			3	8.33'		3500			7
	2-1/4			3	6.66'		4450			7
Type III- Rope, Jute, Tent-Lay	3/4			3	50.00'		480		25%	2
	1			3	34.48'		750		25%	3
	1-1/8			3	24.39'		1000		25%	4
	1-1/2			3	13.33'		1630		25%	7
	2			3	7.51'		2520		25%	7
	2-1/4			3	5.98'		3320		25%	7
Type IV- Rope, Cotton, Tent-Lay	5/8			3	71.42'		250		35%	2
	3/4			3	43.47'		400		35%	2
	1			3	27.77'		630		35%	3
	1-1/8			3	18.86'		850		35%	4
	1-1/2			3	11.49'		1400		35%	7
	2			3	6.49'		2300		35%	7
	2-1/4			3	5.10'		3000		35%	7
Class 1- Natural Class 2- Mildew Resistant treated										

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
MIL-R-1670C Type I Type II Type III Type IV Class 1 Class 2	(5) Class 1 rope shall have a natural finish. Class 2 rope shall be mildew resistant treated with copper-8-quinolinolate to conform with T-T-616. Use of finishing or loading materials to increase weight or strength is prohibited.	Color- Unless otherwise specified, color of the rope shall be natural. Color of treated rope shall be that imparted by the treatment to natural colored rope.	(a) A 5% minus tolerance on min. length per pound is allowed for Class 2 treated rope. (b) When specified, 4-strand rope shall be furnished. It shall be not more than 7% heavier than 3-strand rope of the same type and class, and shall have at least 95% of the strength required for the 3-strand rope. Type I rope shall be made from no other fiber than manila hemp (Abaca or Musa). Type II rope shall be made from no other fiber than sisal (Agave sisalana). Type III rope shall be made from no other fiber than jute (Corchorus capsularis or Corchorus olitorius). Type IV rope shall be made from no other fiber than cotton. Stained or tinged cotton is acceptable.	

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	
Rope, Nylon, Climbing Type MIL-R-1688C		(±1/8)			(a)	Min Max.	W F			
	3/4			3	47.0'	20 ± 5%	(4106) 1300 (initial) 90% (after aging)	(4106) 35%		
	1-1/8			3	23.0'	20 ± 5%	(4106) 3150 (initial) 90% (after aging)	(4106) 35%		
	1-1/4			3	17.0'	20 ± 5%	(4106) 4500 (initial) 90% (after aging)	(4106) 35%		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-R-1688C	(5) No extraneous weighting material shall be added.	Color- Unless otherwise specified, rope shall be dyed Olive Drab No. 7 to match standard sample (3). Colorfastness- standard sample available (4671).	(2) Rope shall be made from 6 denier, bright, virgin, continuous filament nylon, with a min. of 6.5 grams/denier strength. Nylon shall be a long chain polymer of hexamethylene diamine and adipic acid or a long chain polymer of epsilon amino caproic acid. Mixtures of nylon fiber types in any one rope shall be prohibited. (a) A minus tolerance or 10% is allowed for dyed rope.	Intended Use- For mountaineering operations.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circum- ference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Ply
						Min Max.	W F			
<u>Twine, Linen (Waxed and Blocking)</u> MIL-T-2520B										
Type I- Waxed					2235' 1110' 510'		32 60 120			6 12 27
			(+0.0005)							
Type II- Blocking	20		0.1050	4	210'		230			5
	28		0.1250	4	150'		300			7
<u>Cord, Linen, Shock Absorber Serving Use</u> MIL-C-2522C, Amd. 1										
				8	570'		75			1

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-T-2520B Type I Type II	(5) Type I twine shall be waxed and mildew resistant treated in accordance with Type I, Class 2 inhibitor of MIL-T-3530. Inhibitor may be applied with wax or prior to waxing. Type II twine shall have hard polished surface. pH: 5.5 - 7.5 (2811).	Color- Unless otherwise specified, color shall be natural.	Twine shall be made from flax fiber.	Intended Use - In serving and whipping rope ends and splices, and for aircraft rigging.
MIL-C-2522C	(5) Cord shall be waxed. Wax content determined by following chloroform-soluble method in 2611.	Color- Unless otherwise specified, color shall be natural.	Cord shall be made from flax fiber. It shall be braided around a core. No. of core yarns: 4. Picks/inch: 9 min.	Intended Use - For serving the ends of shock absorber cord and other aerial equipment.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Fly	Picks Per Inch
Cord, Rayon, Without Core, Braided MIL-C-4232B						Min Max.	W F				
Type I				16	126'		400	(min.) 14%		1	9-10
Type II				16	60'		1000	12%		1	5-5½
Type III				16	39'		1500	-		1	3½-4

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-C-4232B Type I Type II Type III	No chemical finishes or treatments shall be applied to specifically increase weight or breaking strength.	Color- Unless otherwise specified, cord shall be natural color or methyl orange (tinted) to match standard sample.	Yarn shall be high tenacity viscose rayon, 3.0 - 4.8 grams per denier. Denier of basic yarn shall be 1100 min. In manufacture, not more than 1 carrier end shall be allowed to run off per 50 ft. of cord. When carrier ends run off, they shall be spliced or knotted (5- knots tied in a series) a distance of 5-10 in. in length. When knotting procedure is used, the ends of the knots shall be sheared off adjacent to the surface of the yarn.	Intended Use- As suspension lines of cargo parachutes and in other serial delivery applications.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min.	Elongation % Max.	Water Absorption	Denier	Ply
							(4102)	(4102)	(4502)		
Cord, Nylon											
MIL-C-5040C											
		Ends/Carrier				Min. Max. No. of Yarns Core	W F	(min)	Picks/Inch Sleeve	Core	Sleeve C S
Type I		1 or 2	32 or 16	1050'		4-7	100	30	26-28	210	70 3 3
Type IA (Coreless)		1	16	1050'		-	100	30	"	-	210 - 3
Type II		1	32 or 36	315'		4-7	375	30	"	210	210 *5 3
Type III		1	32 or 36	225'		7-9	550	30	"	210	210 *5 3
Type IV		1	32, 36, 44	165'		11	750	30	"	210	210 *5 3

*- First
**- Final

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
MIL-C-5040C	(5)	Color- Unless otherwise specified, color of the cord shall be natural. When colored cord is specified, cord shall be yarn dyed to match an approved standard shade of Olive Drab No. 7 (3). Sleeve yarns shall be dyed before braiding. Colorfastness- standard sample available (4660-4614-4620). See spec. for instructions for type identification by color marking. Yarns shall not be subjected to any type of bleaching process.	Core yarns shall be shrunk for 1 in. or 60 min. at 93.3° ±2.8°C., and shall be dried at a temp. not to exceed 93.3°C. before manufacture of the core. No oil shall be added to the yarn. Sleeve yarns shall be shrunk for a min. of 30 min. at a temp. of 71.1° ±2.8°C., after which they shall be dried at a temp. not to exceed 71.1°C. before braiding. No oil shall be added to the yarn. Yarns shall not be stretched. Nylon shall be bright high-tenacity light and heat resistant polyamide of hexamethylene diamine and adipic acid or its derivatives. Melting point shall be 250° ±6°C. Splicing of core yarns is permissible, providing overlap is between 5-10 in. Cord shall not lose more than 25% of original breaking strength after exposure to heat and light (4.4.4-4.4.5). Cord shall not be more than 2 years old from date of manufacture to date of delivery.	Intended Use- As parachute suspension lines.
Type I	No extraneous weighting material shall be added.			
Type IA				
Type II				
Type III				
Type IV				

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circum- ference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Picks Per Inch Min. Ply
Cord, Cotton, Braided, Prewaxed MIL-C-5649B (ASG) Amd. 1						Min Max.	W F			
						310 yd.	45			3 10

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-C-549B	Cord shall be thoroughly im- pregnated with a wax which shall not have a detrimental effect on doped cloths. Weight of wax: 10-25% of conditioned weight of fin- ished unwaxed cord. Use of detergents or other chemicals or finishing agents which would cause deterioration in storage is prohibited.	Color- Cord shall be natural, unbleached white.	Yarn shall be made from combed peeler cotton or its equivalent. Cord shall be braided and shall have not less than 16-ends of 3-ply cotton.	Intended Use- In lacing the cloth on airplane fuselages.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circum- ference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min.	Elongation % Max.	Water Absorption	No. of Ends in Braid		
							(4102)	(4102)	(4502)			
<u>Cord, Elastic, Exerciser and Shock Absorber for Aeronautical Use</u>						Min Max.	W F			Inner Outer		
MIL-C-5651B												
		(Outside)			Weight per 100' (lb. max.)			Drift (max)	Set (max)			
Type I- Straight cord with double braided cover (shock-absorbing)		1/4 3/8 1/2 5/8 3/4			2.4 5.5 9.0 14.0 22.0		120 300 400 500 1000	140 140 140 140 120	20% 20% 20% 20% 20%	10% 10% 10% 10% 10%	16 24 32 48 60	24 40 60 60 60
Type II- Endless ring (Bungee) with double braided cover (shock- absorbing)		1/4 3/8 7/16 1/2 9/16 5/8 11/16 3/4 13/16									32 48 48 48 48 48 48 48 60	32 48 48 48 48 48 48 48 60
Type III- Straight cord with single braided cover (exerciser cord)		3/16 5/16			1.3 3.1		45 75	200 200	10% 10%	5% 5%	32 32	32 32

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
MIL-C-5651B Type I Type II Type III	Strands shall be thoroughly treated with soapstone or talc to prevent them from adhering to each other in the finished cord.	Color- Types I & II: both inner & outer braids shall be natural in color. Type III: color shall be as specified. See spec. for instructions on color marking.	(2-6) Yarns shall be cotton. Ends shall be made from natural rubber compound, cis-1,4 polyisoprene rubber compound, or a mixture thereof. Cord shall be made of multiple strands encased within double or single layers of cotton braid. Strands shall be continuous throughout the length of the cord and shall be a uniform size in a given cord. Types I & II: outer braid shall consist of polished ply yarns. Inner braid consist of polished (soft) ply yarns. For all types: braid shall be tight and prevent dirt from entering between the threads at 100% elongation. Cord shall be no more than 6 months old from manufacture to delivery date. Low temp. set: Type I- 10% max.; Type III- 5% max. Flexing cycles (min): Type I, most sizes- 5x10 ⁵ ; Type II, 3/4 in.- 1x10 ⁵ ; Type III- 3.5x10 ⁵ . See spec. for properties after aging.	Intended Use- Types I & II: Shock mount installations. Type III: opening elastic on parachute packs, camera or instrument cradle mounts, airship valve control lines, and where a shock-absorbing cord of low initial tension is required.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Yarn Ply	Yarn Denier
Cord, Nylon, Coreless MIL-C-7515C, Ami. 1						Min Max.	W F				
Type I	Picks Per Inch 11.5-13	End Per Carrier 3	Total Ends 48	16	330'		400	(min) 20		3	210
Type Ia	13-13.5	2	32	16	441'		400	20		2	840
Type II	10-11.5	3	48	16	255'		550	20		1	840
Type III	8.5-10	6	96	16	150'		750	20		3	210
Type IV	7-8.5	6	96	16	120'		1000			1	840
Type V	6.5-8	9	144	16	75'		1500			1	840
Type VI	4.5-6	12	192	16	60'		2000			1	840
Type VII	4.5-6	14	224	16	45'		2400			1	840
Type VIII	5.5-7	12	288	24	36'		3000			1	840
Type IX	5.5-7	12	384	32	27'		4000			1	840
Type X	4.5-6	16	512	32	22.5'		5000			1	840
Type XI	14-15.5	7	112	16	480'		300	20		1	210
Type XII	4-5	16	576	36	12'		10000			7	210
Type XIIa	4-5	18	576	32	12'		10000			7	210

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-C-7515C Type I Type Ia Type II Type III Type IV Type V Type VI Type VII Type VIII Type IX Type X Type XI Type XII Type XIIa	(5)	Color- Unless otherwise specified, cord shall be yarn or piece dyed to match an approved shade of Olive Drab No. 7, except for Type XI, which shall be color coded in 7 continuous alternate 1000 ft. lengths of natural white and black, beginning with natural white. Dyeing of cord in skeins is prohibited (3). Colorfastness- standard sample available (4600-4614).	Nylon yarn used in the cord shall be bright, high-tenacity, heat and light resistant polyamide from hexamethylene diamine & adipic acid or its derivatives. It shall have a melting point of 250°-260°C. In manufacture, no more than 1 carrier end shall be allowed to be run off per 50 ft. of cord. When carrier ends run off, they shall be spliced or knotted (3-5 knots tied in a series) a distance of 5-10 in. in length. When knotting procedure is used, ends of knots shall be sheared off adjacent to the surface of the yarn.	Intended Use- In personnel and cargo type parachutes. Type Ia cord is intended for use in lowcost parachutes. Type XI is for use as tow cables.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circum- ference Inches	Diameter Inches	Number of Strands (Carriers) N ^o	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Ply	Denier
						Min Max.	W F				
Cord, Nylon, Braided, Tubular, Spliceable MIL-C-17183A (NORD)											
	(A) Pick/Inch	Ends/Carrier						(min.)			
Type I	17	4	16	900 yds.			50	20		1	70
Type II	16	3	16	400 "			100	20		1	210
Type III	14.5	(a)	16	225 "			200	20		3	210
Type IV	13	(b)	16	150 "			300	20		3	210
Type V	12	8	16	110 "			400	20		3	210
Type VI	11	3	16	90 "			500	20		4	210
Type VII	9.5	6	16	50 "			750	20		3	210
Type VIII	8.5	6	16	40 "			1000	20		4	210
Type IX	7.5	7	16	35 "			1250	20		3	210
Type X	7	9	16	30 "			1500	20		4	210
Type XI	6.5	10	16	25 "			1750	20		4	210
Type XII	6	12	16	20 "			2000	20		4	210
Type XIII	5.5	13	16	17 "			2250	20		4	210
Type XIV	5.25	14	16	15 "			2500	20		4	210
Type XV	7	12	24	12 "			3000	20		4	210
Type XVI	6.5	14	24	10 "			3500	20		4	210
Type XVII	6.25	4	24	9 "			4000	20		4	240
Type XVIII	6	(c)	24	8 "			4500	20		4	240
Type XIX	5.5	5	24	7 "			5000	20		4	240
Type XX	5.25	(d)	24	6 "			5500	20		4	240
Type XXI	5	6	24	5 "			6000	20		4	240

- (a) 8 carriers of 1 end, 8 of 2 ends, alternately.
 (b) 8 carriers of 2 ends, 3 of 3 ends, alternately.
 (c) 12 carriers of 4 ends, 12 of 5 ends, alternately.
 (d) 12 carriers of 5 ends, 12 of 6 ends, alternately.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-C-17183A Type I Type II Type III Type IV Type V Type VI Type VII Type VIII Type IX Type X Type XI Type XII Type XIII Type XIV Type XV Type XVI Type XVII Type XVIII Type XIX Type XX Type XXI		Color- Unless otherwise specified, color shall be natural. When colored cord is specified, the yarn shall be dyed before weaving or the cord shall be dyed under uniform tension throughout (c).	Cord shall be made from high-tensile, bright nylon. Fiber shall be a polyamide of hexamethylene diamine and adipic acid. (All No. of pick per inch shall not vary by more than 10%. Cord shall be braided on a 16-carrier braiding machine for Type I through Type XIV cords, and on a 24-carrier braiding machine for Type XV through XXI. The machine shall be regulated to give a 2 over, 2 under conventional braid. See spec. for information on inspection.	Intended Use- For telegraphic splicein.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness L.	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Denier
Rope, Nylon MIL-R-17343C, Amd. 1		(6) (At Load P)(Approx.)			(At Load P)	Min Max.	W F (4106)			
822		5/8 3/16			100'	5 25	1000	55		2500-8000
		3/4 1/4			66'	5 25	1500	55		2500-8000
	1	5/16			36'	5 25	2500	55		2500-8000
	1-1/2	3/8			28.5'	5 25	3000	55		2500-8000
	1-1/4	7/16			20'	5 25	4500	55		2500-8000
	1-1/2	1/2			16.5'	5 25	5500	55		2500-8000
	1-3/4	9/16			12.5'	5 25	7000	55		7500-10000
	2	5/8			9.7'	5 25	8400	55		7500-10000
	2-1/4	3/4			7.2'	5 25	11500	55		7500-10000
	2-1/2	13/16			6.2'	5 25	14000	55		7500-10000
	2-3/4	15/16			5.0'	5 25	16000	55		10000-15000
	3	1			4.1'	20 100	22000	55		10000-15000
	3-1/2	1-1/8			3.0'	20 100	28500	55		15000-16000
	3-3/4	1-1/4			2.6'	20 100	33000	55		15000-16000
	4	1-5/16			2.3'	20 100	37500	55		15000-16000
	4-1/2	1-1/2			1.8'	20 100	46000	55		15000-16000
	5	1-5/8			1.5'	20 100	57000	55		15000-16000
	5-1/2	1-3/4			1.25'	20 100	68000	55		15000-16000
	6	2			1.00'	20 100	81000	55		15000-16000
	6-1/2	2-1/8			.90'	20 100	90000	55		15000-16000
	7	2-1/4			.71'	20 100	110000	55		15000 min.
	8	2-5/8			.55'	20 100	137000	55		"
	9	3			.43'	20 100	170000	55		"
	10	3-1/4			.34'	20 100	200000	55		"
	11	3-5/8			.285'	20 100	240000	55		"
	12	4			.24'	20 100	280000	55		"

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-R-17343C	(5) No extraneous weighting material shall be added.	Color- Unless otherwise specified rope shall be natural in color. When color is specified, rope shall be dyed to match approved standard shade of Olive Drab No. 7 (3). Colorfastness- standard sample available (4671).	Moisture content of the rope shall not exceed 5%. Finished ropes shall be spliceable and shall not develop yarn displacement or strand cockles in splicing test. Rope shall be made from bright virgin, continuous-filament nylon fiber of at least 6 denier size, having at least 6.5 gram per denier strength. Nylon shall be a long chain polymer of hexamethylene diamine and adipic acid, or a long chain polymer of epsilon amino caproic acid. Mixtures of nylon fiber types shall not be used in any 1 rope. Ropes shall be made from 3 strands or balanced 3-ply yarns.	Intended Use- For general purpose uses where high strength or stretch is required as in mooring, towing, and hoisting operations.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	
Rope, Polypropylene MIL-R-24049A		(6)				Min Max.	W F			
Sizes:		(At Load P) (Approx.)			(At Load P)					
	5/8	3/16			118.0'		700			
	3/4	1/4			83.5'		1000			
I	1-1/8	5/16			47.0'		1700			
	1-1/4	3/8			36.1'		2150			
	1-1/2	7/16			30.0'		2500			
	1-3/4	1/2			21.0'		3700			
2	2-1/4	9/16			15.8'		4800			
	2-1/2	5/8			12.0'		6000			
	2-3/4	3/4			9.1'		7000			
	3	13/16			7.6'		9000			
	3-1/2	15/16			6.35'		11000			
	3-3/4	1			5.20'		13000			
	4	1-1/8			3.80'		16500			
	4-1/2	1-1/4			3.30'		19500			
	5	1-5/16			2.92'		21500			
	5-1/2	1-1/2			2.28'		26000			
	6	1-5/8			1.90'		32000			
	6-1/2	1-3/4			1.58'		38000			
	7	2			1.26'		44000			
	8	2-1/8			1.10'		50000			
	9	2-1/4			.90'		60000			
	10	2-5/8			.70'		75000			
		3			.545'		94000			
		3-1/4			.430'		115000			
Type I- Low elongation rope										(a)
Type II- High elongation rope										35
										35

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
MIL-R-24049A Type I Type II	(5)	Color- Unless otherwise specified, color shall match an approved standard shade of Olive Drab No. 7 (3). Colorfastness- standard sample available (4671).	(2) (a) Load elongation curve drawn autographically shall not exhibit evidence of changes in load applications greater than 5% of the load weighed at the instant of change. Changes due to splice slippage are not considered. Finished ropes shall be spliceable and shall not develop yarn displacement or strand cockles in testing. Materials used for the rope shall be virgin continuous mono-filament polypropylene, ranging in size from 100-600 denier per filament. Fiber shall have at least 6 grams per denier strength. Softening point of at least 300°F. Specific gravity of no greater than 0.91. Fiber shall contain adequate heat and ultraviolet light stabilizers. Ropes shall be made of 3 strands.	Intended Use- For various Military uses where high strength, lightweight, and floatability are required, as in mooring, towing, and hoisting operations.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Picks Per Inch	Yarns Per Carrier
Rope, Nylon, Double-Braided MIL-R-24050 (SHIPS)						Min. Max.	W/F				Cover (min)
Sizes:	(6)	(Nominal)		(At Load P)				(a)			
	1	3/4	1/4	16	60'		1650	40		8.00	2
	1-1/8	5/16	3/8	16	36'		2750	40		6.20	2
	1-1/4	7/16	1/2	16	30'		3300	40		5.65	2
	1-1/2	9/16	5/8	16	20'		5000	40		4.60	2
	1-3/4	1 1/8	3/4	16	15'		6650	40		4.00	2
	2	1 1/4	7/8	16	12'		8300	40		3.60	2
	2-1/4	1 5/8	1	20	9'		11000	40		3.50	2
	2-1/2	1 3/4	1 1/8	20	6.6'		15000	40		3.10	2
	2-3/4	1 7/8	1 1/4	20	5.7'		17500	40		2.85	2
	3	2	1 1/2	20	4.8'		20800	40		2.60	2
	3-1/2	2 1/4	1 3/4	24	4.0'		25000	40		2.35	2
	3-3/4	2 3/8	1 7/8	24	2.8'		35000	40		2.40	2
	4	2 1/2	2	24	2.5'		40000	40		2.25	2
	4-1/2	2 3/4	2 1/8	24	2.2'		45000	40		2.10	2
	5	3	2 1/4	24	1.6'		60000	40		1.85	2
	5-1/2	3 1/4	2 3/8	24	1.43'		70000	40		1.70	2
	6	3 1/2	2 1/2	24	1.11'		90000	40		1.50	2
	6-1/2	3 3/4	2 3/4	24	1.00'		100000	40		1.40	2
					0.83'		120000	40		1.30	2

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
MIL-R-24050	(5) No extraneous weighting material shall be added to the rope.		(a) Load elongation curve, drawn autographically, shall not exhibit evidence of changes in load applications greater than 5% of the load weighed at the instant of change. Inner and outer braids shall be made from bright, white, virgin continuous-filament nylon fiber of at least 10 denier size, having at least 6.5 grams per denier strength. Nylon shall be a long chain polymer of hexamethylene diamine and adipic acid or a long chain polymer of epsilon amino caproic acid. Mixtures of nylon types shall not be employed in finished rope or component braid. Ropes shall be double braided. A cover shall be braided over an inner core, both hollow. Heat setting will not be permitted. Core carriers: 8 min. Core yarns/carrier: 3/4-3 in. in. 2; 3-1/2 - 4-1/2 in. - 3. Loss in strength after heat aging shall not be more than 10% (4,2,5,3,2). Moisture content shall not exceed 5% (2600).	Intended Use- For general purpose uses where high strength and low elongation are required.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min.	Elongation % Max.	Water Absorption	
							(4102)	(4102)	(4502)	
Rope, Polyester										
MIL-R-30500A										
Sizes:		(6) (At Load P)			(At Load P)	Min Max.	W F			
		5/8		3	84.0'	5 25	(4106) 800	(a) 35%		
		3/4		3	57.0'	5 25	1200	35%		
		1		3	30.0'	5 25	2500	35%		
		1-1/2		3	13.0'	5 25	5000	35%		
		2		3	8.0'	5 25	8000	35%		
		2-1/2		3	5.3'	5 25	13000	35%		
		3		3	3.5'	20 100	18500	35%		
		3-1/2		3	2.5'	20 100	25000	35%		
		4		3	2.0'	20 100	31000	35%		
		5		3	1.3'	20 100	48000	35%		
		6		3	0.90'	20 100	68000	35%		
		7		3	0.66'	20 100	88000	35%		
		8		3	0.50'	20 100	110000	35%		
		9		3	0.40'	20 100	140000	35%		
		10		3	0.33'	20 100	165000	35%		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
MIL-R-30500A	(5) No extraneous weighting material shall be added.	Color- Unless otherwise specified, color of the finished rope shall be natural. When colored rope is specified, rope shall be dyed to match an approved standard shade of Olive Drab No. 7 (3). Colorfastness- standard sample available (4671).	(2) (a) Load elongation curve, drawn autographically, shall not exhibit evidence of changes in load applications greater than 5% of load weighed at the instant of change. Changes due to splice slippage shall not be considered. Material shall be bright, virgin, continuous multi-filament fiber of ethylene terephthalate polymer. Rope shall be of 3 strands. Moisture content: 2% max. Rope shall be spliceable and shall not develop yarn displacement or strand cockles in testing (4.2.5.7).	Intended Use- For general purpose uses.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	
<u>Cord, Acrylic, Lacing</u> (For Assembly of Propelling Charges) MIL-C-40088 (ORD)						Min Max.	W F			
Type 1							20			
Type 2							30			
Type 3							90			
Type 4							100			
<u>Rope, Nylon (Spun Yarn)</u> MIL-R-43161		3/4+1/8			47'		(4106) 850 (initial) 90% (after heat aging)	(4106) 35%		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-C-40088 Type 1 Type 2 Type 3 Type 4	Acidity or alkalinity: no more than 0.1% as acetic acid and not more than 0.1% as sodium carbonate (4.6.1.1.2). Ash content: not more than 1.0% (4.6.1.2). There shall be no halogens in the cord (4.6.1.3). pH: 5.0 - 9.0 (4.6.1.1.1).	Color- Unless otherwise specified, color shall be natural. If color is specified, it shall be obtained by "dope" dyeing (the color being added to the acrylic polymer mix prior to spinning the filaments) or by conventional dyeing as specified by contracting officer.	(2) Cord shall be made from 99% min. acrylic fiber. Breaks in ends or plies shall be joined by knots. Ave. no. of full knots (a knot in the entire cord) shall be not more than 1 for every 2 oz. of cord.	Intended Use- In the assembly of propelling charges. It is not for use with propellants containing nitroguanidine.
MIL-R-43161	(5) No extraneous weighting material shall be added.	Color- Shall be Olive Drab No. 7. Standard sample available (3). Colorfastness- standard sample available (4671).	Rope shall be made from bright, virgin, spun staple nylon. It shall be of 3-strand construction, have a firm lay with a high degree of resistance to back turning (nubbing or kinking in the strand) upon removal of afterturn form rope. Rope shall be not more than 2 years old from date of manufacture to date of delivery. Moisture content shall not exceed 5%.	Intended Use- For lacing ponton floats.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circum- ference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	
						Min Max.	W F			
Cord, Polyester, Solid Braid MIL-C-43256, Amd. 2 (GL)										
Sizes:		(+1/64)								
		3/32	8		360'		205	20%		
		1/8	9		220'		310	20%		
		5/32	12		140'		400	20%		
		3/16	12		99'		540	20%		
		7/32	12		71'		725	20%		
		1/4	12		53'		945	20%		
		5/16	12		34'		1575	20%		
		3/8	12		25'		1925	20%		
		1/2	12		14'		2950	20%		
Cord, Linen, (Plumb-Bob Use) MIL-C-43258										
		0.050	8		1350'		48			

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-C-43256	(5) No extraneous weighting material shall be added.	Color- Unless otherwise specified, color of cord shall be natural. When colored cord is specified cord shall be dyed to match standard sample (3). Colorfastness- standard sample available (4671).	(2) The yarn used in the fabrication of the cord shall be a high tenacity multi-filament, plied or singles polyester yarn. When dyed cord is specified, the shade shall be obtained by yarn dyeing or piece dyeing and subsequently processed to stabilize the yarn or cord. The character of the cord shall be equal to standard samples for roundness and firmness.	Intended Use- In tentage, equipage, and other items.
MIL-C-43258	(5) Cord shall have a smooth dressed surface with a hard polished finish. pH: 5.5 - 7.5 (2811).	Color- Color of cord shall be natural.	Cord shall be made from flax fiber.	Intended Use- For plumb-bob use on surveying equipment.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circum- ference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min.	Elongation % Max.	Water Absorption	Picks Per Inch Min.	Elastic Strands Min.
Cord, Elastic, Cotton MIL-C-43303, Amd. 1							(4102)	(4102)	(4502)		
						Min Max.	W F				
		Yarn Counts +2 Cover Cord									
	Class 1- General purpose	20/2	20/1	3/16-1/32	16 of 1 end/car- rier or 8 of 2 ends/ carrier.	0.18 oz/lin yd.		117-143		26	7
	Class 2- Special purpose	20/2	20/1	3/16-1/32				117-143 (initial) 80% (after acc. aging) 80% (after low temps.)		26	7

Cord, Nylon, Solid
Braid, General Purpose
MIL-C-43307, Amd. 1

Sizes:	(+1/64)				
	3/32	9	380'		250
	1/8	9	220'		400
	5/32	12	144'		540
	3/16	12	99'		720
	7/32	12	72'		900
	1/4	12	57'		1100
	5/16	12 or 18	36'		1900
	3/8	12 or 18	24'		2700

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-C-43303 Class 1 Class 2		Color- natural or dyed (1). When dyed is specified, cotton yarn shall be dyed before braiding. (3-4). Standard sample available. Colorfastness- standard sample available (5600).	Elastic strands shall be made of compounded natural rubber, synthetic rubber, or a mixture thereof. Rubber gage shall be .36 (max. fineness). Core shall be composed of 7 ends of rubber wrapped first with 4 ends of 20/1 cotton yarn, and top wrapped with 1 end of 20/1 cotton yarn. Braid cover shall be braided over the core with the carriers braiding in pairs in a basket weave formation. Class 2: Initial permanent set- 8.0% max. After acc. aging, change in permanent set shall be no more than 20% (3.5.3.4-3.5.2.5).	Intended Use- As a drawcord in the man's field coat, vesicant gas protective coat, cold weather overalls for mechanics, traffic control ensemble, man's parka, rucksack cover, and fragmentation protective body armor.
MIL-C-43307		Color- Unless otherwise specified, color shall be natural. When specific color is required, it shall be as specified, and shall match standard sample (3). Colorfastness- standard sample available (4671).	Yarn shall be bright, high tenacity multi-filament nylon. Cord shall be of solid braid construction.	Intended Use- In miscellaneous tentage and equipment application.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circum- ference Inches	Diameter Inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	Width Inch (+10%)	Thickness Inch (+0.003)
Tape: Impregnated, Lacing and Tying MIL-T-43435							Min	Max.	W	F	
Type I- Polyamide Nylon											
Sizes:	1	400	300	350	325		135	40		.225	.014
	2	700	500	600	550		80	40		.125	.012
	3	1000	800	900	850		50	40		.090	.012
	4	2000	1500	1800	1650		25	40		.062	.012
	5	3200	2400	2800	2600		15	40		.050	.012
Type II- Polyester											
Sizes:	1		200	250	225		135	40		.225	.014
	2		400	450	425		80	40		.125	.012
	3		800	900	900		50	40		.090	.012
	4		950	1100	1000		25	40		.062	.012
	5		1400	1550	1450		15	40		.050	.012
Type III- Tetra- fluorocarbon											
Sizes:	2	A	350	C	300		30	30		.120	.011
	4		650		550		15	30		.065	.011
	5		1150		1000		10	30		.025	.011
Type IV- Glass											
Sizes:	1			D	E		200	5		.225	.016
	2			150	145		100	5		.125	.016
	3			400	375		75	5		.090	.016
	4			600	575		50	5		.062	.016
	5			900	875		25	5		.050	.016
Type V- Polyamide Nylon heat-resistant											
Sizes:	1	A	450	C	400	F	85	40		.225	.014
(Continued)	2		800	700	700		50	40		.125	.012
	3		1150	1000	1000		35	40		.090	.012
	4		1550	1300	1300		25	40		.062	.008

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-T-43435 Type I Type II Type III Type IV Type V (Continued)	All tape finishes shall contain no copper, mercury, or compounds of copper and mercury. All finishes shall be able to be used freely in contact with insulated cable or wire.	Color- Unless otherwise specified, color shall be natural.	Type I yarn shall be a high tenacity, continuous filament nylon. Type II yarn used shall be a high tenacity continuous filament polyester. Type III yarn shall be a continuous filament tetrafluorocarbon. Type IV yarn shall be an electrical grade, continuous filament, glass, having high insulation resistance, high dielectric strength, high resistance to aging, and low moisture pickup. Material shall be free from any free alkali metal oxides, such as soda or potash, and from foreign particles, dirt or other impurities. Type V yarn shall be an electrical grade, continuous filament, non-melting, aromatic polyamide, having high temperature resistance, high dielectric strength, and high resistance to aging. Yarn shall be substantially free from sizing, loading, and other adulterants.	Intended Use- For lacing and tying telephone switchboard cable forms, hookup wires, cable ends, aircraft cable bundles, electrical and electronic equipment, and electrical wire-harness assemblies.

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circumference inches	Diameter inches	Number of Strands (Carriers) Min.	Length Per Lb. Min.	Hardness	Breaking Strength Lb. Min. (4102)	Elongation % Max. (4102)	Water Absorption (4502)	
Tape: Impregnated, Lacing and Tying MIL-T-43435 (Cont'd)						Min Max.	W F			

Finish A- Natural.
Finish B- Wax impregnated.
Finish C- Synthetic rubber including elastomer coatings.
Finish D- Tetrafluorocarbon coating.
Finish E- Vinyl chloride or vinyl chloride-acetate copolymer coating.
Finish F- Silicone resin impregnated.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as core requirements, etc.)	NOTES (Not Specification Requirements)
MIL-T-43435 (Cont'd) Finish A Finish B Finish C Finish D Finish E Finish F	Finish A tape shall have a natural finish. Finish B tape shall be uniformly treated with microcrystalline fungicide wax. Wax content: 15-32%. Finish C tape shall be uniformly impregnated with a synthetic rubber finish. Rubber content: 7-17%. Finish D tape yarns shall be uniformly impregnated with tetrafluorocarbon coating before braiding. Tetrafluorocarbon content: 10-20%. Finish E tape shall be uniformly coated with virgin vinyl chloride or vinyl chloride-acetate copolymers plasticized with phosphate or ester plasticizers exclusively. Coating content: 15-30%. Finish F tapes shall be uniformly impregnated with silicone resin. Resin content: 7-17%.		All tapes shall be braided in a flat braid construction. No tape shall show visible fungus growth on the surface of test specimens (4.2.5.3). Finish C, E, and F tapes: Stress applied to a specimen by joining 2 ends of the braided tape with a square knot shall result in breakage rather than in slippage or pulling out of the knot (4.2.5.4). Finish C, D, E, and F tapes: no visible damage or removal of coatings after blocking test (4.2.5.5). Finish C, D, E, and F tapes: no stiffness, brittleness, softness or tackiness after accelerated aging (5852).	

CORDAGE

NOMENCLATURE	Commercial Number or Size	Circu- ference Inches	Diameter Inches	Number of Strands (Carriers) Min	Length Per Lb. Min.	Hardness		Breaking Strength Lb. Min.	Elongation % Max.	Water Absorption	Picks Per Inch	Denier	Fly
						Min	Max.	(4102)	(4102)	(4502)			
Cord, Polyamide, High Temperature Resistant MIL-C-81104 (WEP6)						Min	Max.	W/F					
16, 1 end per carrier 350'								100	30		26- 28	200	3

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as core requirements, etc.)	(Not Specification Requirements)
MIL-C-81104		Color- Unless otherwise specified, color shall be Olive Green. Color shall be obtained by utilization of solution-dyeing.	Yarn shall be a high strength, aromatic polyamide, and shall not melt.	Intended Use- In the construction of anti-G coveralls, Mark 2A, and related clothing.

REFERENCES

CORDAGE

Textile Test Methods - CCC-T-191b

<u>Method</u>	<u>Title</u>
	<u>Chemical</u>
2811	Acidity (pH), potentiometric method.
	<u>Mechanical</u>
4102	Strength and elongation, breaking small cords; single strand.
4106	Strength, breaking, heavy cordage (tape).
	<u>Air Permeability and Water Resistance</u>
4502	Water absorption; thread, cord, braid, immersion method.
	<u>Colorfastness</u>
4614	Colorfastness to laundering; wool, silk and rayon yarn, thread and cordage; Launder-Ometer method.
4630	Colorfastness to water; yarn, thread, cordage.
4650	Crocking resistance; yarn, thread, cordage.
4660	Colorfastness to light; yarn, thread, cordage; accelerated method (Fade-Ometer).
4670	Colorfastness to weather; yarn, thread, cordage; accelerated method (Twin Arc Weather-Ometer).
4671	Colorfastness to weather of yarn, accelerated method (National Weathering Unit).
5600	Chlorine bleaching; cloth.
	<u>Deterioration Test</u>
5852	Aging; accelerated oxygen method.

GENERAL NOTES

KNITTED CLOTHS

The following parenthetical numbers are utilized throughout this section of the text as referenced notes. Upon observing these numbers, refer to this page for further information dealing with specific portions of the item.

- | | |
|---------------------------|-------------------------------------|
| (1) As specified. | (4) Sulfur dyes. |
| (2) Preproduction sample. | (5) Nonfibrous, etc., restrictions. |
| (3) Colormatching. | (6) Knitting instructions. |

The specific test methods referenced in this section of the text are listed with their titles at the end of the section.

KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min.	Width Inch	Weight Oz/Sq Yd	Thick-ness Inch	Bursting Strength Lb. Min.	Air Permea-bility	Shrinkage and Elongation % Max
	Fiber	Yarn Number	Ply	Denier								
Net, Laundry (Nylon)												
JJ-N-180d, Amd. 2												
(See also under Synthetic Cloths)												

Type I- With grommets

Type II- Without "

Size 1- 10x15 in.	Nylon:	260	260	Warp	9.0	9.6	220
Size 2- 12x22 in.	Bright,	260	260	"	9.0	9.6	220
Size 3- 18x30 in.	high-	260	260	"	9.0	9.6	220
Size 4- 24x36 in.	tenacity	260	260	"	9.0	9.6	220

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
JJ-N-180d				
Type I				
Type II				
Size 1				
Size 2				
Size 3				
Size 4				

Cloth shall be scoured and heat set.

Color- Cloth shall be white (natural).

Yarn shall be 16-18 filament. Brass grommets shall conform to Type I, Class 1, Size 4 of V-T-295. Meshes/sq in.: 1 -22.

Intended Use- In the form of a bag for washing items of clothing in a laundry.

KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min.	Width Inch	Weight Oz / Sq Yd	Thick-ness Inch	Bursting Strength Lb. Min.	Air Permeability	Shrinkage and Elongation % Max
	Fiber	Yarn Number	Ply	Denier								
						(5070)		(5041)	(5030)	(5120)	(5450)	(5556)
Stockinet, Surgical JJ-S-746a			W C S	W C S		W C		Min Max				W C

Type I- Rib knit
unbleached (Natural
color) or bleached

Sizes: 3 in. wide 12/1
4 in. wide or
6 in. wide 14/1
8 in. wide or
9 in. wide 16/1
10 in. wide
12 in. wide
20 in. wide

Rib knit 16 24 3 (per lin yd)
seamless 16 24 4 1.50
or circular 16 24 6 2.50
in contin- 16 24 8 3.00
uous tube 16 24 9 3.50
of cloth. 16 24 10 4.00
16 24 12 4.50
16 24 20 8.00

(+15%)
Ribs Loops
75 300
75 300
75 300
75 300
75 300
75 300
75 300

Type II- Plain or
flat knit, olive
drab
Sizes: 13-14 in. wide 24/1
50-54 in. wide or
26/1
or
28/1

Plain knit 24 36 13-14 4.4
on a cir- 24 36 50-54 4.4
cular or
flat ma-
ch ne.

(per sq yd)
4.4
75
75

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES
			(Such as Stretch, etc.)	(Not Specification Requirements)

JJ-S-746a
Type I
Type II

Color- Type I: unbleached
(natural color) or bleach-
ed. Type II: Olive Drab.
Stock, yarn, or piece
dyed. (4).
Colorfastness- Type II:
"good" (5672-5651).

Intended Use- In the treatment
of fractures and wounds.

KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min.	Width Inch	Weight Oz/Sq Yd (5041)	Thickness Inch (5030)	Bursting Strength Lb. Min. (5120)	Air Permeability (5450)	Shrinkage and Elongation % Max (5556)
	Fiber	Yarn Number	Ply	Denier								
Scarf, Neckwear, Wool MIL-S-2063E			W C S	W C S		W C		Min Max				W C
Class 1- Olive Green 208	Fleece and/or pulled wool: 56's worsted.		2 2		Flat Jersey, tube, made on a circular machine using 2 ends per feed.	8 10	9-1			60		13 13
Class 2- Gray 1155			2 2									
Class 3- Navy Blue 3345			2 2									

Cloth, Netting, Nylon

MIL-C-3395E

(See also under Synthetic Cloths)

Type I- Woven
(See Synthetics)

Type II- Warp knitted
Bright or semi-dull multi-filament nylon.

70 70

Warp knit (6).

(1)

2.0

2 2

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
MIL-S-2063E Class 1 Class 2 Class 3	(5) Face of the cloth shall have a lightly brushed finish.	Color (1)- Standard sample available (3). Colorfastness- standard sample available (5651-5614-5660-5680).	Wool shall be treated for resistance to felting shrinkage in stock, top, yarn or cloth by controlled oxidation process approved by procuring activity. Process shall not increase alkali solubility more than 6% (absolute).	Intended Use- As neck scarves for personnel of the Department of Defense.
MIL-C-3395E Type I Type II	Cloth shall be given a permanent resin finish & character of finished cloth shall be equal to standard sample. To insure proper number of meshes/inch and the size of meshes, cloth shall be heat set and framed to size.	Color- Cloth shall be dyed Olive Green No. 106. Standard sample available (3). Use of pigmented and resin emulsion finishes to provide color & finish in one operation will be permitted. Colorfastness- standard sample available (5614-5671).	Breaking strength: 50 lb. min. (5100). Mesh size- Initial: 0.035 in. max. After 3 launderings and slippage tests: 0.100 in. max. Meshes per sq in: 500-635.	Intended Use- In tentage and equipage items.

KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min. (5070)	Width Inch	Weight Oz / Sq Yd (5041)	Thick- ness Inch (5030)	Tearing Strength Lb. Min. (5120)	Air Permea- bility (5450)	Shrinkage and Elongation % Max (5556)
	Fiber	Yarn Number	Ply	Denier								
Cloth, Synthetic Kotton, Knitted MIL-C-6590 (USAF) And. 1	Cotton ground											
Type I- 100% Acrylonitrile Copolymer, Pile Fiber	Acrylo- nitrile copolymer			Pile 6 or 7	Ground: knitted on a 10-gage machine	15 12	(1)	26.0 -		85		
Type II- 100% Acrylonitrile Copolymer Vinyl Chloride, Pile Fiber	Acrylo- nitrile copolymer vinyl chloride			6		15 12	(1)	27.0 -		85		
Type III- 100% Acrylic, Pile Fiber	Acrylic			6 or 7		15 12	(1)	26.0 -		85		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
MIL-C-6590 Type I Type II	Use of dyestuffs, detergents, or other chemicals or finish- ing agents which would cause deterioration in storage or cause dermatitis on prolonged intimate skin contact is pro- hibited.	Color- Unless otherwise specified, color shall be Sage Green 530. Colorfastness- "good" (5620-5660-5651).	Pile height: $\frac{1}{2}$ +1/16 in. Pile recovery: 85% after 1 minute; 95% after 4 hours (4.5.2). Backing material shall show no signs of block- ing (5872). Backing material shall not crack or break when tested for flexibility (4.5.3). Backing compound shall consist of a neoprene latex, a suit- able plasticizer and a suitable cellulose flock, to form a flexible backing.	Intended Use- In the manufacture of clothing items.

KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min.	Width Inch	Weight Oz/Sq Yd	Thick-ness Inch	Bursting Strength Lb. Min.	Air Permeability	Shrinkage and Elongation % Max
	Fiber	Yarn Number	Ply	Denier								
						(5070)		(5041)	(5030)	(5120)	(5450)	(5556)
Cloth, Rayon, Knitted MIL-C-8065 (USAF) Am. 1	W C S W C S					W C		Min Max				W C
	Contin- uous filament viscose rayon				Milanese knit (6).	46- 50	44- 48	(1)	4.75	5.25	(5122) 80	35 60- 80
Cloth, Knitted, Cotton MIL-C-12836A (MU)	Cotton				Jersey knit, tubular	19	22	32 ± 1	10.5	-	90	85-100
Cloth, Knitted, Nylon, Pile MIL-C-17155C (SA)	Semi-dull; dull or bright filament nylon, regular tenacity.				Face Back 200 70 or 210	28	28	(1)	9.5±0.5	(0.1 psi) 0.175 (1.1 psi) 0.125	100	(Shrinkage) 8 5 (Elongation) 130% (course)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
MIL-C-8065	(5) Use of dyestuffs, detergents, or other chemicals or finishing agents which would cause deterioration in storage or dermatitis on skin contact is prohibited. pH: 5.0 - 9.0 (2811).	Color (1-3). Colorfastness- "good" (5682-5620-5622-5614-5651).		Intended Use- In the manufacture of glove inserts.
MIL-C-12836A	Cloth shall be well napped on one side.	Color - Shall be Olive Drab Shade No. 7 (4). Colorfastness- "good" (5630).	(2)	Intended Use- As a filter material in dust respirators.
MIL-C-17155C	Cloth shall be slit, dyed and napped. Nap shall be completely disoriented, well tigered and have a uniform density. Finish shall be equal to finish of the standard sample.	Color- Shall be Green 3405. Standard sample available (3). Colorfastness- standard sample available (5610-5622-5651-5680).	Yarns shall consist of 30-40 continuous filaments.	Intended Use- As a lining material for cold weather clothing.

KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min.	Width inch	Weight Oz / Sq Yd	Thick-ness inch	Bursting Strength Lb. Min.	Air Perme-ability	Shrinkage and Elongation % Max	
	Fiber	Yarn Number	Ply	Denier									
						(5070)		(5041)	(5030)	(5120)	(5450)	(5556)	
Cloth, Knitted, Cotton (Waffle Type)			W	C	S	W	C	Min	Max			W	C
MIL-C-17157C (SA)	Cotton	1	1		Waffle effect (6)		(1)	11.0 ± 1.0	0.08	100		12	12
	20's								(0.1 psi)				
									0.06				
									(1.1 psi)				

Cloth, Knitted, Wool and Cotton Fleece

<u>and Cotton Fleece</u> <u>MIL-C-17238B</u>	Cotton & fleece and/or pulled wool, 50's	Cotton: 1 or 2 Wool: 1	2 ends of cotton knit as 1; 2 ends of wool tucked as 1. Cotton back; napped wool face.	18.5- 21.5	17- 23	(1)	17.5	20.5	0.24 (0.1 psi) 0.17 (1.1 psi)	65	-	95
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Cloth, Dacron, Knit

MIL-C-21286 (AER)	Dacron		Circular pile knit	30	30	54	7.5 ± 0.2	0.15				(5552)	1.5	1.5
Amd. 1									(0.1 psi)					
									0.07					
									(1.0 psi)					
									0.12					
									(unloading at 0.1 psi)					

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
MIL-C-17157C	(5) Cloth shall be scoured (not bleached), rinsed and finished to produce a clean, soft, lofty cloth in a state suitable for underwear.	Color- Cloth shall be natural (undyed and unbleached).	(2)	Intended Use- In the manufacture of cold weather underwear (drawers and undershirts) worn by military personnel.
MIL-C-17238B	Cloth shall be scoured (not bleached) and evenly napped to form a disoriented pile on the face.	Color- Shall be natural (undyed and unbleached).	(2) Cloth shall have a min. of 65% wool and a max. of 35% cotton.	Intended Use- In insulated cold weather boots worn by military personnel.
MIL-C-21286	Cloth shall be evenly napped on both sides to produce a uniform thickness throughout. Finished cloth shall be soft, flexible, and free from sizing and finishing materials.	Color- Unless otherwise specified, color of cloth shall be natural (undyed).	Breaking strength: 50 lb. min. in warp & courses (5100). Flammability of the cloth shall be "Normal" as defined in Commercial Std. CS191-53.	Intended Use- In the fabrication of winter flight clothing.

KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min. (5070)	Width Inch	Weight Oz/Sq Yd (5041)	Thick- ness Inch (5030)	Bursting Strength Lb. Min. (5120)	Air Perme- ability (5450)	Shrinkage and Elongation % Max (5556)
	Fiber	Yarn Number	Ply	Denier								
<u>Cloth, Knitted, Cotton</u> <u>(Circular, Waffle Type)</u> Mil-C-22761 (SA)			W C S	W C S		W C		Min Max				W C
Cotton		1 1			Waffle (6)		(1)	11.5 ± 1	0.10 (0.1 psi) 0.07 (1.1 psi)	65		12 12

Cloth, Knitted,
Cotton, Simplex
NYL-C-40004A

Type I

Class 1- White 3028 Cotton
Class 2- Gray 1164 "
Class 3- Gray 1163 "
Class 4- Seal
brown 105 "
Class 5- Gray
beige 270 "
Class 6- Black 3226 "

48-line	60	42	36
Atlas pat-	60	42	min.
tern with	60	42	
non-revel-			
ing edges.	60	42	

9.5	-	130
9.5	-	130
9.5	-	130
9.5	-	130
9.5	-	130
9.5	-	130

(5550)

10	3
10	3
10	3
10	3
10	3
10	3

Type II (lighter weight cloth)

66 40

7.5 -

120

10 3

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
MIL-C-22781	(5) Cloth shall be scoured (not bleached), rinsed, and finished to produce a clean, soft, lofty material in a relaxed state suitable for manufacture of underwear. Resins, sizing, or loading material shall not be used to increase weight or to control dimensional stability. Cloth shall be evenly napped on both sides and shall match standard sample for finish.	Color- Cloth shall be natural (undyed and unbleached) and shall match standard sample.	(2)	Intended Use- In the manufacture of cold weather underwear (drawers and undershirts) worn by military personnel.
MIL-C-40004A Type I Class 1 Class 2 Class 3 Class 4 Class 5 Class 6 Type II	(5) Cloth shall be sueded on both sides and have a suppleness equal to the standard sample. pH: 5.0 - 8.5 (2811).	Color (1)- Standard sample available (5-4). When White is specified, cloth shall be bleached and tinted with Vat Blue 6, CI 69825/6. Colorfastness- standard sample available (5614-5651-5680).	(2) Type I- Stretch: 15% max. in the length; 40-60% in the width(4.4.2.1). Type II- Stretch: 20% max. in length; 60-80% in width.	Intended Use- In the fabrication of gloves, scarves, and lining of protective headgear, and earphones and other personal equipment.

KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min.	Width Inch	Weight Oz/Sq Yd (5041)	Thickness Inch (5030)	Bursting Strength Lb. Min. (5120)	Air Permeability (5450)	Shrinkage and Elongation % Max (5556)
	Fiber	Yarn Number	Ply	Denier								
Cloth, Nylon, Knitted, Raschel MIL-C-41831	Bright high tenacity filament nylon		W C S	W C S	Raschel (6)	20 28	35 min.	10.5 -		200		1 1
Cloth, Knitted, Nylon, Tubular, Stretch Type MIL-C-43247 (GL)	Stretch nylon yarn		100 100	Interlock	28 40	(1)	10.5 ± 0.5		200		30-50	45-65
Cloth, Pile, Acrylic Fiber Pile MIL-C-43251	Pile: Acrylic fiber. Backing: blend of cellulose & triacetate. Triacetate content: 45% min.		File: 3	Circular knit (6)		(1)	11.5 13.5					

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
MIL-C-41831	Cloth shall be heat set and resin treated using a thermosetting resin to provide stiffness. Stiffness- Initial: min. of 0.300 load-lb. parallel to the wales and 0.200 across the wales. After 3 launderings: min. of 0.175 parallel to the wales and 0.150 across the wales.	Color- Shall be Olive Green 106. Standard sample available (3). Colorfastness- standard sample available (5614-5651-5680).		Intended Use- As the front stiffener in field, hot weather baseball caps.
MIL-C-43247	Cloth shall be scoured, dyed, and heat set.	Color- Cloth shall be Olive Green 106. Standard sample available (3). Colorfastness- standard sample available (5610-5651-5680).	Recovery after elongation: to within 1/4 in. of original measurements.	Intended Use- In the manufacture of insulated caps for helmet liners.
MIL-C-43251	Cloth shall be opened & sheared. Pile height shall be 13/32-1/32. Pile characteristics shall be equal to those of standard sample. An acrylic type resin applied to the back of the cloth as an anticurl or bonding agent will be permitted. pH: 5.5 - 8.0 (2811).	Color- Shall be Green 252. Standard sample available (3). Dullness (lack of lustre) shall approximate that of standard sample. Colorfastness- standard sample available (5614).	(2)	Intended Use- As the lining component in canteen covers.

KNITTED CLOTHS

NOMENCLATURE	YARN				Type of Knit	Yarns Per Inch Min.	Width Inch	Weight Oz / Sq Yd (5041)	Thick- ness Inch (5030)	Bursting Strength Lb. Min. (5120)	Air Permea- bility (5450)	Shrinkage and Elongation % Max (5556)
	Fiber	Yarn Number	Ply	Denier								
Cloth, Knitted, Nylon; Nile, Tricot MIL-C-43352, Am. 1 (OL)			W C S	W C S		W C		Min Max				W C

Class 1- Untreated	Mono-filament		15	15	Mesh type	(1)	0.5±0.1		19			
Class 2- Resin treated	semi-dull normal tenacity nylon.		15	15	Mesh type	(1)	0.5±0.1		19			

Cloth, Knitted,
Nylon/Triacetate,
Tricot, OG 106
MIL-C-43358

Back bar: multifilament semi-dull normal ten- acity nylon Front bar: 20 filament triacetate.	Back bar: 40 Front bar: 75	Warp knitted so that tri- acetate yarn will be run in to produce a long float.	47	(1)	5.0	6.5	min. 0.065	45	3	4
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NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Stretch, etc.)	NOTES (Not Specification Requirements)
MIL-C-43352 Class 1 Class 2	Class 1 cloth shall be scoured. Class 2 cloth shall be given a permanent resin finish. Char- acter of finish shall equal that of standard sample. Both classes shall be framed and heat set to assure proper number of meshes/inch and the size of the meshes.	Color- Class 1: Shall be Olive Green 106. Standard sample avail- able (3). Class 2: Shall be Black 221. Standard sample avail- able (3). Colorfastness- standard sample available (5614- 5680).	Mesher per inch- Width: 19-21; Length: 27-29.	Intended Use- As a component of the medical kit used by military personnel and as a component of the head net.
MIL-C-43358	Cloth shall be scoured and heat set. The long floats on reverse side of cloth shall be napped and shear- ed to produce a uniform density of pile throughout. Character of napped surface shall be equal to that of standard sample. (5)	Color- Shall be OG 106. (2) Standard sample avail- able (3). Colorfastness- standard sample available (5614- 5651-5680).		Intended Use- As the basic mat- erial for the Shirt, Sleeping, Man's, Nylon/Triacetate, Tricot Knit, OG 106.

REFERENCES

KNITTED CLOTHS

Textile Test Methods - CCC-T-191b

<u>Method</u>	<u>Title</u>
	<u>Chemical</u>
2811	Acidity (pH), Potentiometric method.
	<u>Construction</u>
5030	Thickness of cloth.
5041	Weight of cloth; small specimen method.
5070	Wales and courses in knit cloth.
	<u>Mechanical</u>
5100	Strength and elongation, breaking, grab method.
5120	Bursting strength, ball method.
	<u>Air Permeability and Water Resistance</u>
5450	Air permeability, calibrated orifice method (Frazier).
	<u>Shrinkage Resistance</u>
5550	Shrinkage in laundering; cotton, linen, and mixed cotton and linen cloth.
5556	Shrinkage in laundering; mobile laundry method.
	<u>Colorfastness</u>
5600	Chlorine bleaching; cloth.
5610	Laundering; cotton and/or linen; Launder-Ometer.
5614	Laundering of wool, silk, rayon cloth; Launder-Ometer.
5620	Dry cleaning (petroleum solvent).
5622	Wet cleaning (with dry cleaning).
5630	Water, cold.
5651	Crocking of cloth.
5660	Light; accelerated (Fade-Ometer).
5671	Weather; accelerated method (National Weathering Unit).
5672	Weather; natural weather method.
5680	Perspiration; perspirometer method.
5682	Perspiration; tube method.

GENERAL NOTES

NARROW FABRICS

The following parenthetical numbers are utilized throughout this section of the text as referenced notes.
Upon observing these numbers, refer to this page for further information dealing with specific portions of the item.

- | | |
|--|---|
| (1) As specified. | (5) Nonfibrous and extractable matter restrictions. |
| (2) Preproduction sample. | (6) Restrictions on sulfur dyes. |
| (3) Colormatching. | (7) Bid sample and laboratory report. |
| (4) See specification for applicable tolerances. | |

The specific test methods referenced in this section of the text are listed with their titles at the end of the section.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight	Width Inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min.	Elongation % Max.	Thickness Inch	Yarn Counts and Ply ±5.0%
Tape, Textile; Cotton, General Purpose (Unbleached, Bleached, or Dyed) DDD-T-86a	Warp	Fill	Stuffer	Min. Max	Total (nin)	Face & Back	Stuffer (Min)			Warp Fill
Type I- Stay bindings, herringbone twill weave				(4)				(warp)		
	Cotton			1/4	28	38	25		40/2	60/2
	Cotton			3/8	36	38	30		or	or
	Cotton			7/15	44	38	35		20/1	30/1
	Cotton			1/2	52	38	42		"	"
	Cotton			5/8	60	38	50		"	"
	Cotton			11/16	68	38	58		"	"
	Cotton			3/4	76	38	65		"	"
	Cotton			13/16	84	38	72		"	"
	Cotton			7/8	92	38	80		"	"
	Cotton			1	100	38	85		"	"
	Cotton			1-1/16	108	38	90		"	"
	Cotton			1-1/8	116	38	95		"	"
	Cotton			1-1/4	132	38	115		"	"
	Cotton			1-1/2	164	38	130		"	"
Type II- Other bindings herringbone twill weave (Continued)										
	Cotton			3/16	32 ¹	58	22		60/2	60/2
	Cotton			1/2	74 ²	70	50		"	30/1
	Cotton			5/8	94 ³	70	60		"	or 60/2

1. 8 ends left- 16 ends right- 8 ends left.
2. 20 ends left- 34 ends right- 20 ends left.
3. 22 ends left- 50 ends right- 22 ends left.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
DDD-T-86a Type I Type II (Cont'd)	(5)	Color- Tape shall be unbleached, bleached, or dyed as specified. Std. samples available (3-6). Colored tape shall be stock, yarn, or piece dyed. Colorfastness (1). Standard samples available. If no requirements are stated elsewhere, the following shall hold (5600-5610-5622-5651-5660-5671-5680).	When specified, Classes 1, 2, and 3 shall be preshrunk, & shall not shrink more than 4% in the warp (4.3.2). Weave - Type I: a 2/2 single or multiple herringbone twill with 1 or more reversals of the twill across the width of the tape. Tape shall have a woven edge on both sides. Weave - Type II: shall be the same as for Type I. Tape shall have a woven edge on both sides.	Intended Use- As bindings in the fabrication of clothing and other textile items.

NARROW FABRICS

NOMENCLATURE	Yarn Number		Fiber	Weight		Width Inch	Warp Yarns - Full Width		Picks Per Inch	Breaking Strength Lb. Min.	Elongation % Max.	Thickness Inch	Yarn Counts and Fly $\pm 5.0\%$	
										(5100)	(5100)	(5030)		
Warp		Fill	Stuffer	Min		Max	Total (min)	Face & Back	Binder	Stuffer (Min)	Warp			Fill
Type, Textile; Cotton, General Purpose (Unbleached, Bleached, or Dyed) DDD-T-86e (Cont'd)														
				(4)						(warp)				
Type III- Bindings, plain weave		Cotton	3/16	13			28	14			24/2	30/1		
		Cotton	1/4	17			28	18			"	or		
		Cotton	3/8	25			28	24			"	60/2		
		Cotton	1/2	34			28	35			"	"		
		Cotton	9/16	35			28	36			"	"		
		Cotton	1	65			28	65			"	"		
Class 1- Unbleached Class 2- Bleached Class 3- Dyed														

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
DDD-T-86e (Cont'd) Type III Class 1 Class 2 Class 3	See p. 245 for additional information.		Weave - Type III: shall be plain. Tape shall have a woven edge on each side.	

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight	Width Inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min.	Elonga- tion % Max.	Thick- ness Inch
							(5100)	(5100)	(5030)
Tape, Non-Woven (Parallel-Yarn Flat String) DDD-T-906	Warp	Fill	Stuffer	Min	Max	Total Face & Back	Binder	Stuffer	
Class 1- 0.0045 in. thick Sizes:						+2 (+1/32) (+ any)		(5102)	(+0.0005)
		Ary synthetic		3/16	16		16		0.0045
		and/or		1/4	21		21		0.0045
		natural fiber		5/16	27		27		0.0045
				3/8	32		32		0.0045
				1/2	46		46		0.0045
				5/8	56		60		0.0045
				3/4	73		73		0.0045
				1	97		97		0.0045
Class 2- 0.006 in. thick Sizes:									
				5/16	17		21		0.006
				1/4	23		28		0.006
				5/16	30		35		0.006
				3/8	37		43		0.006
				1/2	48		55		0.006
				5/8	58		70		0.006
				3/4	75		85		0.006
				1	100		115		0.006
Class 3- C.010 in. thick Sizes:									
				5/16	16		65		0.01
				3/8	21		93		0.01
				1/2	27		124		0.01
				5/8	33		155		0.01
				3/4	40		186		0.01
				1	53		248		0.01

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
DDD-T-90b Class 1 Class 2 Class 3		Color- Unless a specific color is stated in the invitation for bids, tape shall be white, natural, or any color. Colorfastness- "fair" (5651). When water resistant binding agent is specified, also "fair" for 5630. Dyed tape shall be uniform in color.	Tape shall be a flat strip of closely paralleled yarns bonded by a suitable binding agent. If a water resistant binding agent is required, it shall be so specified in the invitation to bid. Bonding material shall be a suitable adhesive of any suitable backing or coating substance. When specified in the invitation for bids, tape shall be printed on one or both sides in black or colored ink, any lettering, insignia, or serial number.	Intended Use- Primarily for tying packages, identification purposes, and as a removal strip in packaging.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz/sq yd	Width inch	Warp Xes - Full Width	Picks Per Inch	Breaking Strength Lb. Min (5100)	Elonga- tion % Max. (5100)	Thick- ness inch (5030)	
Type, Textile, Cotton, Bias-Cut DDD-T-140	Warp	F:W	Stuffer	Min	Max	Total	Facs a Back	Binder	Stuffer	
Type I- Cambric		Cotton	2.7	-	(1)	64			55	
Type II- Percale		Cotton	3.0	-	(1)	85			72	
Type III- Sateen		Cotton	2.8	-	(1)	88			140	
Type IV- Twill		Cotton	4.0	-	(1)	76			114	
Class 1- Bleached Class 2- Dyed										

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
DDD-T-140 Type I Type II Type III Type IV Class 1 Class 2	Type I cloth shall contain enough sizing to produce a cambric finish.	Color (1-6). Standard samples available (3). Colorfastness- Standard samples available (5610- 5600-5622-5651-5660- 5680 or 5682).	Weaves - Types I and II: plain; Type III: Sateen; Type IV: 1/2 twill.	Intended Use- Primarily for the the binding of seams in wear- ing apparel.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight Oz./lin yd	Width inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min.	Elongo- tion % Max.	Thick- ness inch	Elastic Strands Gage Weave No.
Webbing, Textile, Cotton, Elastic	Warp/Fill	Stuffer	Min/Max	Total/Face & Back	Binder	Stuffer	(5100)	(5100)	(5030)	
JJ-W-155d, Am. 1										
Type I- Woven	(+2 counts)			(4) (elastic)						
Class 1	20/2 24/2	Cotton	0.28	1/2	7	18	-	50%	0.045-0.060	36 2
Class 2	24/2 24/2	Cotton	0.30	1/2	8	21	-	50%	0.042 min.	30 1
Class 3	24/2 24/2	Cotton	0.43	3/4	11	30	-	50%	0.042 min.	30 1
Class 4	24/2 24/2	Cotton	0.50	7/8	13	36	-	50%	0.042 min.	30 1
Class 5	20/2 24/2	Cotton	0.45	7/8	12	33	-	50%	0.045-0.060	36 2
Class 6	20/2 24/2	Cotton	0.50	1	13	36	-	50%	0.045-0.060	36 2
Class 7	24/2 24/2	Cotton	0.57	1	15	42	-	50%	0.042 min.	30 1
Class 8	24/2 20/2	Cotton	0.54	1-1/4	14	26	-	50%	0.050-0.065	50 4
Class 9	20/2 20/2	Cotton	0.62	1-1/4	14	28	24	50%	-	36 3
Class 10	16/2 12/1	Cotton	0.65	1-1/2	17	26	11	50%	0.050 min.	44 3
Class 11	24/2 24/2	Cotton	0.85	1-1/2	26	100	-	40%	0.038 min.	30 1
Class 12	24/2 24/2	Cotton	0.87	1-1/2	23	66	-	50%	0.043 min.	30 1
Class 13	12/2 12/1	Cotton	0.95	1-3/4	19	54	-	50%	0.048 min.	36 2
Class 14	12/2 12/1	Cotton	1.25	2	22	63	-	50%	0.048 min.	36 2
Class 15	24/2 20/2	Cotton	1.28	3	22	42	-	50%	0.049 min.	50 4
Class 16	24/2 20/2	Cotton	2.60	6	42	82	-	50%	0.049 min.	50 4
Class 17	40/2 30/2	Cotton	3.30	5	113	885	216	40%	0.058 min.	42 5
Class 18	40/2 30/2	Cotton	4.60	7	157	1237	304	40%	0.058 min.	45 5
Class 19	30/2 24/2	Cotton	6.70	10	221	1749	432	40%	0.058 min.	42 5
Class 20	20/2 20/2	Cotton	0.55	1/2	28	53	7	50%	0.09 min.	30 6
Class 21	20/2 20/2	Cotton	1.40	1	28	171	13	40%	0.09 min.	30 6
Class 22	20/2+ 12/2 12/2	Cotton	1.50	1-1/2	19	153	36	40%	0.09 min.	30 6
Class 23	20/2 20/2	Cotton	2.07	1-1/2	42	253	20	40%	0.09 min.	30 6
Class 24	20/2+ 12/2 24/2	Cotton	2.10	1-1/2	44	182	40	40%	0.09 min.	30 6
Class 25	20/2 20/2	Cotton	2.66	2	56	342	26	40%	0.09 min.	30 6
Class 26	30/2 24/2	Cotton	0.43	5/8	12	46	-	50%	0.053 min.	28 1

(Continued)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
JJ-W-155d Type I Class 1 Class 2 Class 3 Class 4 Class 5 Class 6 Class 7 Class 8 Class 9 Class 10 Class 11 Class 12 Class 13 Class 14 Class 15 Class 16 Class 17 Class 18 Class 19 Class 20 Class 21 Class 22 Class 23 Class 24 Class 25 Class 26 (Continued)	Unless otherwise specified, Classes 1, 20 & 26 shall be water repellent and mildew resistant treated. Class 5 shall be mildew resistant treated. Mildew resistant treatment shall be with 2,2' methylenebis-(4-chlorophenol) so that concentration of the inhibitor deposited on the webbing shall be 1.35 + 0.25%. Inhibitor shall be applied from a two bath aqueous emulsion. Water repellent treated shall be obtained by the use of a wax or metallic salt wax compound. As a result of the treatment, dynamic absorption shall not be more than 40% (5500).	Color- Classes 1-8, 10-12, 14, 20, 22, 24, and 26 shall be unbleached, bleached, or dyed as specified. Class 9 shall be bleached. Classes 13, 15, and 16 shall be unbleached. Classes 17-19 shall be dyed Tea Rose. Classes 21, 23, and 25 shall be dyed Gray. Standard samples available (3). For dyed webbing, yarns shall be vat dyed before weaving (6). Colorfastness- standard samples available. For dyed webbings of Classes 1, 5, 6, 8-11, and 13-26 (5610-5671). For Classes 2, 3, 4, 7, and 12 (5610-5660).	Elastic strands for all webbing except Class 5 shall be made from compounded natural rubber. Class 5 shall be made from natural rubber. When a core is covered, it shall be wrapped with multiple ends of cotton yarns. See spec. for special directions for weaves 1-6. See spec. for initial tension requirements to be met by all Classes. After acc. aging, tension of all webbings except Class 5 shall change not more than 20% (4.3.2.1). Tension for Class 5 shall not change more than 10% (4.3.2.2). Permanent set of all webbing shall not exceed 8% initially. Change in set shall not be more than 20% after acc. aging. (4.3.4.2 for all Classes except Class 5; 4.3.4.3 for Class 5). Change in set of Class 5 after low temperatures shall be not more than 35% (4.3.4.4). Elongation of all Classes except Class 5, after low temps. shall be not less than 10% (4.3.5.1). For Class 5, 50% min. (4.3.5.2). *Synthetic rubber may also be allowed.	Intended Use- Class 1, 6 and 9: used by the Chemical Corps. Class 1: also used in fabrication of various types of Army goggles. Class 5: used by Chemical Corps in one type of protective mask, head harness. Class 9: used in boxer shorts. Class 14: used in Navy swim trunks. Class 17, 18, 19, 21, 23 and 25 (untreated): used in medical installations for construction of orthopedic appliances. Class 20: used in the fabrication of helmet, camouflage, bands.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz/lin yd	Width inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max. (5100)	Thick- ness Inch (5030)	Elastic Strand Gage Weave Number
Webbing, Textile, Warp/Fill/Stuffer (Cotton, Elastic) JJ-W-155A, Amend. 1 (Cont'd)			Min/Max		Total/Face & Back					
Type II- Braided (+2 counts)					(4) (carrier)(elastic)					
Class 1	20/2	Cotton	0.16 -	5/16	17 8	68	50%	0.035-0.050	42	7
Class 2	20/2	Cotton	0.20 -	3/8	25 12	68	50%	0.035-0.050	42	7
Class 3	20/2	Cotton	0.24 -	1/2	33 16	68	50%	0.035-0.050	42	7

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
JJ-W-155a (Cont'd) Type II Class 1 Class 2 Class 3		Color- Classes 1-3 shall be unbleached, bleached, or dyed as specified. Standard samples available (3). For dyed webbing, yarns shall be vat dyed before weaving (6). Colorfastness- Standard samples available. For Classes 1 and 2 (5610-5660). For Class 3 (5610-5671).	Class 5 shall meet all requirements for tension before and after aging, elongation, and all permanent set, after being boiled (4.3.6). Type II- Elastic strands shall be made from natural and/or synthetic rubber. When a core is covered, it shall be wrapped with multiple ends of cotton yarns. Weave No. 7 shall be plain, 2 over and 2 under. See spec. for initial tension requirements to be met by all Classes. Tension shall not change more than 20% after acc. aging (4.3.2.1). Permanent set shall not exceed 8% initially. After acc. aging, set shall not change more than 20% (4.3.4.2). Elongation shall not be less than 10% after low temps. (4.3.5.1).	Intended Use- All Classes are used by the Chemical Corps.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz/144 yd	Width inch ($\pm 1/32$)	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongo- tion % Max. (5100)	Thick- ness inch (5030)	Ends Per Carrier	No. Of Ends Core
Braid, Textile (Cotton, Tubular) MIL-B-371C, Am. 2	Warp/Fill	Stuffer	Min/Max		Total/Face & Back	Binder	Stuffer				

(4102) Ply
Braid Core

Type I- With core	Cotton	14.0	-	4/32 (dia)	16	16	60	2	3	1	10
Type II- With core	Cotton	28.0	-	5/32 "	8	10	75	2	3	8	8
Type III- Flat	Cotton	16.5	-	6/32	24	22	75	2	-	2	-
Type IV- Solid	Cotton	21.0	-	4/32 (dia)	8	10	80	3	-	2	-
Type V- Solid	Cotton	26.0	-	6/32 (dia)	8	8	100	4	-	2	-
Type VI- Solid	Cotton	25.0	-	4/32 (dia)	8	8	100	2	-	6	-
Type VII- Flat	Cotton	25.0	-	11/32	44	22	140	2	-	2	-

Class 1- Natural finish.
Class 2- Water-repellent finish.
Class 3- Water and mildew resistant finish (Copper-3-quinolinolate).
Class 4- Water and mildew resistant finish 2,2' Methylenebis-(4-chlorophenol).

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-B-371C Type I Type II Type III Type IV Type V Type VI Type VII Class 1 Class 2 Class 3 Class 4	Class 1: natural finish. Class 2: water repellent treated with metallic salt wax emulsions. After treatment, dynamic absorption shall be not more than 40% (4500). Class 3: water repellent treated in the same manner as Class 2, and mildew resistant treated in accordance with Type I, Class 1 of MIL-T-3530. Class 4: water repellent treated in the same manner as Class 2, and mildew resistant treated in accordance with Type I, Class 2 of MIL-T-3530.	Color (1-6). Standard samples available (3). Colorfastness- Standard samples available. Class 1: (4660-4610-4600). Class 2: (4660-4610). Class 3: (4660-4610). Class 4: (4600-4610).	(2) Types I, II, IV, V and VI shall be braided with a basket type braiding. Type III and VII shall be braided with a plain type braiding. A loss in breaking strength, based on the min. specified for untreated braid shall be permitted for the applicable Class as follows: Class 2: 15%. Classes 3 and 4: 20% (includes loss for water repellent and mildew treatment).	Intended Use- For use with various items of clothing as a tie-cord or lacing cord.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight	Width Inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max. (5100)	Thick- ness Inch (5030)	
Cloth, Thread, and Tape; Asbestos	Warp	Fill	Stuffer	Min	Max	Total	Face 0 Back	Binder	Stuffer	
SS-C-466e See also under Natural Fibers Other than Cotton or Wool Form I- Cloth Form II- Thread, sewing, reinforced with wire Form III- Thread, sewing, without wire Form IV- Tape Grade U.G.- 80% asbestos Style 1- Plain weave										
			Asbestor	(1)	16+1		8+1			

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
SS-C-466e Form I Form II Form III Form IV			Tape shall contain not less than 80% asbestos. It shall be made of good-quality chrysotile asbestos and organic fiber. Hygroscopic moisture shall not exceed 5% (4.4.1.1). Warp yarn shall be 10-cut and filling shall be 10-cut, 2-ply. Tape shall have woven selvage edges.	Intended Use- Tape shall be used as the jacketing material over insulation where the temperature of the insulated surface is more than 125°F (52°C), except that it is not intended to be used on fittings or flanges, or where it will be in contact with heated metal.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight	Width Inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min.	Elongation % Max.	Thickness Inch	
							(5100)	(5100)	(5030)	

Webbing and Tape, Warp	Fill	Stuffer	Min	Max	Total	Face & Back	Binder	Stuffer
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Textile, Cotton,
General Purpose
Natural or in Colors
MIL-W-530D, And. 2

Type I- Lightweight tape	(+3%)	(a)	(varp)
Sizes:	16/2 16/2	Cotton	0.15 - 3/8
	16/2 16/2	Cotton	0.20 - 1/2
	16/2 16/2	Cotton	0.25 - 5/8
	16/2 16/2	Cotton	0.30 - 3/4
	16/2 16/2	Cotton	0.35 - 7/8
	16/2 16/2	Cotton	0.40 - 1
	16/2 16/2	Cotton	0.45 - 1-1/8
	16/2 16/2	Cotton	0.50 - 1-1/4
	16/2 16/2	Cotton	0.60 - 1-1/2
	16/2 16/2	Cotton	0.80 - 2
	16/2 16/2	Cotton	1.00 - 2-1/2
	16/2 16/2	Cotton	1.20 - 3

Type Ia- Extra lightweight tape	20/2 20/2	Cotton	0.45 - 2	159 -	32	235
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Type II- Medium weight webbing (hard texture)	(full width)
Sizes:	16/2 16/2 Cotton 0.20 - 3/8 48 40 100
	8/4 8/4 Cotton 0.32 - 1/2 24 14 160
	8/4 8/4 Cotton 0.40 - 5/8 30 14 200
	8/4 8/4 Cotton 0.48 - 3/4 36 14 235
	8/4 8/4 Cotton 0.65 - 1 48 14 315
	8/4 8/4 Cotton 0.81 - 1-1/4 60 14 385
	8/4 8/4 Cotton 0.97 - 1-1/2 72 14 460
	8/4 8/4 Cotton 1.30 - 2 96 14 585
	8/4 3/4 Cotton 1.78 - 2-3/4 132 14 760
	8/4 8/4 Cotton 1.95 - 3 144 14 810

(Continued)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
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MIL-W-530D Type I Type Ia Type II (Continued)	(5) Classes 1a, 1b, 2a, 4, 7 and 8 webbing or tape shall have a water repellent finish, consisting of aluminum salts of saturated carboxylic acid (such as formate, acetate, palmitate, or stearate) mixed with refined mineral and vegetable waxes. Product shall be applied either in the form of an aqueous emulsion or of a water-free solvent solution, to effect the deposit of not more than 6% on the weight of the finished cloth. Dynamic absorption of treated cloth shall be no more than 40% (5500). Classes 1b and 4 webbing or tape shall be mildew resistant treated with an even deposit of 0.13-0.40% copper as metal from copper-8-quinolinolate. See spec. for method of application.	Color- Webbing & tape shall be unbleached, bleached white, dyed Olive Drab 7, Black, or other color as specified. Standard samples available (3). Dyed webbing or tape shall be stock or yarn dyed, except Types I, Ia & IIa, which may be piece dyed. Only those warps of stock or yarn dyed webbing specifically listed as "stuffer warps" may, if properly covered, be undyed. When Classes 4, 7 and 8 are required, shade of dyed webbing or tape prior to application of finish shall, unless otherwise specified, match standard sample. Unless specifically authorized by contracting officer, use of coloring matter as a component of the finish is not permitted.	(2-7). (a) Two or more plied yarns of equal yarn size, weaving as 1 may be substituted for the yarn sizes shown, providing that the single equivalent count of the yarns is equal to the yarn sizes specified, and providing that the min. weight, equivalent texture, and min. breaking strengths are not reduced. Weave for Type Ia shall be plain. See spec. for special instructions and/or diagrams for all other weaves.	Intended Use- In the manufacture of tentage, clothing, and equipment items. Class 7 webbing or tape is specified when intended for end use in contact with natural or synthetic rubber. Type VI webbing is used as understraps in the manufacture of prosthetic appliances and for lamp wicks.
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NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight	Width inch	Warp Yarns - Full Width	Picks Per inch	Breaking Strength Lb. Min.	Elongation % Max.	Thickness inch	
							(5100)	(5100)	(5030)	
Webbing and Tape, Textile, Cotton, General Purpose, Natural or in Colors	Warp	Fill	Stuffer	Min	Max	Total	Face & Back	Binder	Stuffer	
MIL-W-530D, Amd. 2 (Cont'd)										
Type II- Medium weight webbing (hard texture)										(Per Inch)
Sizes: (Cont'd)	8/4	8/4	Cotton	2.43	- 3-3/4	180		14		315
	8/4	8/4	Cotton	3.25	- 5	240		14		315
	8/4	8/4	Cotton	3.65	- 5-5/8	270		14		315
										(warp)
Type IIa- Medium weight webbing (soft texture)	12/2	12/2	8/3 Cotton	0.25	- 3/8	41	5	10	36	130
	12/2	12/2	8/3 Cotton	0.33	- 1/2	47	6	12	36	160
	12/2	12/2	8/3 Cotton	0.41	- 5/8	53	7	14	36	195
	12/2	12/2	8/3 Cotton	0.49	- 3/4	55	9	18	36	230
	12/2	12/2	8/3 Cotton	0.65	- 1	83	12	24	36	300
	12/2	12/2	8/3 Cotton	0.81	- 1-1/4	101	15	30	36	370
	12/2	12/2	8/3 Cotton	0.97	- 1-1/2	119	18	36	36	440
	12/2	12/2	8/3 Cotton	1.30	- 2	155	24	48	36	580
	12/2	12/2	8/3 Cotton	1.47	- 2-1/4	173	27	54	36	645
Type IIb- Medium hvy.wgt. webbing	8/4	10/3	Cotton	0.60	- 5/8	49	5		24	310
	8/4	10/3	Cotton	0.72	- 3/4	57	6		24	365
	8/4	10/3	Cotton	0.96	- 1	73	8		24	475
	8/4	10/3	Cotton	1.20	- 1-1/4	89	10		24	590
	8/4	10/3	Cotton	1.44	- 1-1/2	105	12		24	700
	8/4	10/3	Cotton	1.92	- 2	137	16		24	925
	8/4	10/3	Cotton	2.25	- 2-1/4	161	19		24	1050
	8/4	10/3	Cotton	2.88	- 3	201	24		24	1375
(Continued)										

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-530D (Cont'd) Type IIa Type IIb (Continued)	Classes 1a, 2a, and 7 webbing or tape shall be mildew resistant treated with 1.1-1.6% of 2,2' methylenebis-(4-chlorophenol). See spec. for method of application. pH: Classes 1a, 1b, 2a, 4, 7 and 8 shall be 5.5 - 8.5.	Dyed webbing or tape shall show good dye penetration and dye shall be completely oxidized. Webbing or tape shall be well soaped and washed after dyeing(6). Colorfastness- Class 3: standard sample available (5651-5671). In addition, Class 3, Type I shall show fastness to (5600-5610). Classes 4 & 7: standard sample available (5651-5671). In addition, Classes 4 & 7, Type I shall show fastness to (5600-5610). Class 8: standard sample available (5651-5671-5600-5610).		

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight	Width inch	Warp Yarns - Full Width	Picks Per inch	Breaking Strength Lb. Min.	Elongation % Max.	Thickness inch	
							(5100)	(5100)	(5030)	
Webbing and Tape, Warp, Fill, Stuffer			Min/Max		Total	Face & Back				
Textile, Cotton, General Purpose, Natural or in Colors										
MIL-W-530D, Amend. 2 (Cont'd)										
Type III- Heavy-weight webbing	(+3%) (a)						(varp)			
3/4 8/4 8/4	Cotton	1.00	-	5/8	57	5	12	24	380	
8/4 8/4 4/4	Cotton	1.20	-	3/4	65	6	14	24	460	
8/4 8/4 8/4	Cotton	1.33	-	1	81	8	18	24	550	
8/4 8/4 8/4	Cotton	1.50	-	1-1/4	89	10	11	24	650	
8/4 8/4 4/4	Cotton	2.00	-	1-1/4	97	10	22	24	720	
8/4 8/4 4/4	Cotton	2.40	-	1-1/2	113	12	26	24	860	
8/4 8/4 8/4	Cotton	2.65	-	2	145	16	34	24	1100	
8/4 8/4 4/4	Cotton	4.00	-	2-1/2	177	20	42	24	1360	
8/4 8/4 4/4	Cotton	4.80	-	3	209	24	50	24	1560	
Type IV- Webbing	(b)									
Special Use	8/4 8/4	Cotton	0.90	-	5/8	48	7	40	255	
8/4 8/4	Cotton	1.90	-	1-1/4	94	15	46		500	0.135 max.
10/5 10/5	Cotton	2.25	-	1-3/8	119	18	40		800	
8/4 8/4 8/4	Cotton	3.40	-	2-1/4	167	10	99	28	1200	
8/4 8/7	Cotton	4.30	-	2-1/4	196	32	38		1100	0.135-0.155
Type V- Webbing										
multiple weave	12/3 12/3	Cotton	2.75	-	(+1/32) 1-3/4	333		100	1000	1/8±1/64
Type VI- Webbing										
special (appliances and wicks)	5/2 10/2	Cotton	0.53	-	(+1/16) 1	49	11	18	350	0.080±0.005
(Continued)										

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
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MIL-W-530D (Cont'd) For additional information see page 254.

Type III
Type IV
Type V
Type VI
(Continued)

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz/gross yd	Width Inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min.	F 90- 100 (5100)	Thick- ness Inch (5030)	Ends Per Carrier	Line Min.
<u>Braid, Textile</u> <u>(Nylon, Mohair,</u> <u>and Cotton: Mohair</u> <u>and Cotton)(Flat)</u> MIL-B-5530	Warp/Fill	Stuffer	Mir	Box	Total	Face & Back	Binder	Stuffer			
Type I- Mohair outer covering Class 1- 3/3 plain stitch (Hercules) Sizes:									No. of Carriers		
Cotton	Cotton &	45	-	3/4	16/3	26	110	49	2	8	
40/2	Mohair:	62	-	1	24/3	26	170	73	2	12	
Mohair	28's,	78	-	1-1/2	32/2	26	190	97	2	16	
2/28	worsted.	100	-	1-3/4	44/2	26	220	133	2	22	
		110	-	2	48/2	24	300	145	2	24	
		166	-	2-1/2	48/3	19	360	145	5	24	
		182	-	3	48/4	19	390	145	5	24	
Class 2- 8/8 basket or diamond stitch	"		112	-	1-3/4	32/2	8	230	66	4	16
Class 3- 2/2 plain stitch Sizes:	Cotton 40/2 or 20/2										
Mohair	2/28	24	-	1/2	12/2 or 4	21	60	25	2	6	
		34	-	3/4	16/2 or 4	21	80	33	2	8	
		68	-	1-1/2	32/2 or 4	21	150	65	2	16	
		90	-	1-3/4	32/4	18	200	65	2	16	
Type II- Nylon & Mohair outer cover- ing, 2/2 plain stitch Sizes:	Cotton 40/2 Mohair 2/28	Cotton, Mohair: 23's worsted & Nylon: con- tinuous fila- ment 210 den.									
		34 filament.	-	1/4	6/6	23	40	13	2	3	
		68	-	1/2	12/6	22	80	25	2	6	
		85	-	1-1/2	32/6	22	210	65	2	16	
			-	2	40/6	22	265	81	2	20	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-B-593C Type I Class 1 Class 2 Class 3 Type II	Finished braid shall be singed (in either yarn or braid).	Color (1-6), Standard sample available (3). Colorfastness- Standard sample available (5622- 5651-5660-5680-5682).	Type I braid shall be made with a cotton warp with a mohair outer covering. Type II braid shall be made with a cotton warp with a nylon- mohair outer covering. Shrink- age- Type I, Class 3: shall not shrink more than 2% length (5558).	Intended Use- To designate rank on military uniforms.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight Oz/Lin Yd	Width Inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max. (5100)	Thick- ness Inch (5030)	
Type, Insulating (Electrical) Linen- Finish, Plain MIL-T-638A	Warp Fill Stuffer (+5%)		Min Max		Total Face Binder Stuffer & Back					
	30/1 38/1	Cotton		1/2	36	35	15		0.005	
	30/1 30/1	Cotton		3/4	56	35	25		0.005	
	20/1 30/1	Cotton		1/4	18	35	15		0.007	
	20/1 30/1	Cotton		1/2	36	35	25		0.007	
	20/1 30/1	Cotton		3/4	56	35	30		0.007	
	20/1 30/1	Cotton	1		72	35	40		0.007	
	20/1 30/1	Cotton		1-1/2	108	35	60		0.007	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-T-638A	(5) Type shall be unbleached, and no finish shall be applied other than calendering. Tape shall have smooth, even surface com- monly known as linen-finish. pH: 5.0 - 8.0 (2811).		Weave shall be plain, with woven selvages on each side.	Intended Use- Tape is Class O insulation, for use in cables and similar items, with contin- uous operating temp. limit of 90°C., and, in general, is used when combined with a liquid dielectric to form Class A insulation with a continuous operating temp. limit of 105°C.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz./gross yd	Width inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max. (5100)	Thick- ness inch (5030)	Number of Carriers
<u>Braid, Textile,</u> <u>Cord-Made</u> MIL-B-1667D	Warp	Fill	Stuffer	Min	Max	Total	Face & Back	Stuffer		
					(Flat Braid Section)					
Class 1- General Officers, Army	28/2-32/2	Cotton, continuous filament, regenerated rayon of 150x7.5 den. & 2x filament min. or 300x15 den. & 4x filament min. & non-tarnishable metallic silver color cellophane: 0.020 in. wide & 6500 yds/lb.	22.0	-	3/16-1/4	Cover: 4(150 denier) or 3(300 denier) Flat braid: 12(1 carrier) 12(25 carrier)	Cover: 26(150 denier) or 23(300 denier) Flat braid: 26			Cover: 19 Flat Braid: 21-25 (For All Classes)
Class 2- Officers Army			22.0	-	3/16-1/4					
Class 3- Warrant Officers, Army			22.0	-	3/16-1/4					
Class 4- Enlisted Men, Army										
Class 5- General Officers, Air Force			22.0	-	3/16-1/4	Cover: --- Flat braid: Same as Class 1	Cover: --- Flat braid: 26			
Class 6- Officers, Air Force			22.0	-	3/16-1/4	Cover: 4 or 3 Flat braid: Same as Class 1	Cover: 23(150 denier or 21 (300 den.))			
Class 7- Airmen, Air Force			22.0	-	3/16-1/4	Cover: 4 or 3 Flat braid: Same as Class 1.	Cover: 26 or 23 Flat braid: 26			

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-B-1667D Class 1 Class 2 Class 3 Class 4 Class 5 Class 6 Class 7		Color (1). Standard samples available (3-6). Colorfastness- Standard sample available (4660-4622-5651-4660).	(2) Flat braid section and cord section shall be braided together in one operation on a cord-edge braider. Cord section shall consist of a cord cover braided around a cotton core. Width of finished cord section shall be 3/32-1/8 in. Core shall be 4 cotton stuffer yarns. Each yarn shall be a 20/3/4 ply cord with permissible + or - count on the singles yarn. Classes 1, 4 and 7: cord cover shall be braided with 1 color of rayon yarn. Class 2: cord cover shall be braided using 14 carriers of black rayon yarn & 5 carriers of black rayon yarn equally spaced. Class 3: cord cover shall be braided using 14 carriers of black rayon yarn & 5 carriers of silver grey rayon equally spaced. Class 5: Cord cover shall be braided using metallized silver color cellophane (1 end/carrier, 21 picks/in.) Class 6: Cord cover shall be braided using 9 carrier cellophane, of remaining 10 carriers with every other carrier out, 5 carriers blue rayon.	Intended Use- On garrison caps worn by personnel of the Departments of the Army and the Air Force.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz./gross yd	Width inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max. (5100)	Thick- ness Inch (5030)	
Type, Textile, Nylon, Woven, White or Dyed MIL-T-2283D	Warp/Fill	Stuffer	Min/Max	(+1/16) (-1/32)	Total	Face & Back	Binder	Stuffer		
		210 (+5%)	9.0 -	1/2	65		40	90		
		den., bright	11.0 -	5/8	79		40	140		
		high ten-	13.5 -	3/4	95		40	190		
		acity poly-	17.0 -	1	127		40	240		
		amide of	22.0 -	1-1/4	157		40	265		
		hexamethy-	26.0 -	1-1/2	187		40	290		
		lene dia-								
		mine & adi-								
		pic acid or								
		its deriva-								
		tives								

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-T-2283D		Color- Natural (white) or dyed as specified. Standard samples available (3). Colorfastness- Standard sample available for dyed tape (5622-5614- 5660).	Tape shall have a plain weave with woven selvages on both edges.	Intended Use- In the fabrication of clothing and individual equipment.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz./lin yd	Width inch	Warp Yarns - Full Width	Picks Per inch	Breaking Strength Lb. Mir	Age- on 4 Max.	Thick- ness inch	No. of Single Yarns for Final Plied Yarn (min.)
Webbing, Textile, Warp/Fill/Sheffer	Min/Max	Total/Face/Binder/Stuffer	Back							
MIL-W-4088E (GL)	Denier & Filament SEC	F	(4)							V B F
And. #3										
Types: I	420/68	840/140	Bright,	- 0.28	9/16	92	34	500	0.025-.040	1 - 1
Ia	420/68	840/140	high ten-	- 0.32	3/4	108	36	600	0.025-.035	1 - 1
II	420/68	840/140	acity, heat	- 0.42	1	134	34	600	0.025-.040	1 - 1
III	420/68	840/140	& light	- 0.52	1-1/4	168	34	800	0.025-.040	1 - 1
IV	420/68	840/140	resistant	- 1.20	3	400	34	1800	0.025-.040	1 - 1
VI	840/140	840/140	polyamide	- 1.15	1-23/32	114	21	2500	0.030-.090	2 - 2
VII	840/140	840/140	of hexame-	- 2.35	1-23/32	229	24	5500	0.060-.100	2 1 2
VIII	840/140	840/140	thylene	- 1.60	1-23/32	166	18	3600	0.040-.070	2 - 2
VIIIa	840/140	840/140	diamine &	- 2.80	3	280	18	6300	0.040-.070	2 - 2
IX	840/140	840/140	adipic acid	- 4.00	3	257	28	9000	0.065-.100	3 2 2
X	840/140	840/140	or its deri-	- 3.70	1-23/32	257	31	8700	0.110-.140	3 1 2
XII	420/68	840/140	vatives.	- 0.85	1-23/32	266	34	1200	0.025-.040	1 - 1
XIII	840/140	840/140	Melting	- 2.90	1-23/32	281	34	6500	0.030-.120	2 1 2
XIV	210/34	210/34	point: 482°	- 0.80	1/2	91	36	1200	0.070-.100	7 - 7
XV	210/34	210/34	P. min. (5)-	- 1.25	2	88	15	1500	0.035-.050	10 - 10
XVI	840/140	840/140		- 2.00	1-23/32	198	17	4500	0.045-.080	2 - 2
XVII	840/140	840/140		- 1.15	1	114	15	2500	0.045-.070	2 - 2
XVIII	840/140	840/140		- 2.05	1	260	18	6000	0.100-.160	2 - 2
XIX	840/140	840/140		- 4.10	1-3/4	280	18	10000	0.105-.130	3 - 2
XX	840/140	210/34		- 3.25	1	162	26	9000	0.190-.235	5 1 10
XXI	210/34	210/34		- 1.70	1-1/4	260	25	3600	0.065-.085	5 - 10
XXII	260/17	840/140		- 3.50	1-23/32	299	18	7300	0.090-.120	10 - 2
XXIII	840/140	840/140		- 3.70	1-1/8	324	27	12000	0.200-.300	3 2 3
XXIV	840/140	840/140		- 2.25	1-15/16	244	17	5500	0.055-.075	2 - 3
XXV	840/140	840/140		- 1.50	1	169	20	4500	0.090-.125	2 1 2
XXVI	840/140	840/140		- 4.90	1-3/4	235	16	15000	0.170-.200	5 - 3

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-4088E		Color (1). Standard sample available (3). When dyeing is required, webbing shall be yarn or piece dyed using dispersed, acid, metallized, or chrome dyes. Colorfastness- Standard sample available (5660-5614). See spec. for instructions on colored identification yarns.	Type XXII webbing shall retain not less than 95% of original breaking strength when abraded (4.5.1). Weave- Types I, Ia, II, III, IV, VI, VIII, VIIIa, XII, XV, XVI, and XVII: weave shall be 2 up, 2 down herringbone twill and 1 reversal at center of webbing. Types VII, IX, X, XIII, and XXV: weave shall be a double plain weave with a single filling. Separate binder warp ends shall weave 2 up, 2 down, 1 end as 1. All other warp yarns shall weave 2 ends as 1 except that the edge warp yarns shall weave 1 end as 1 not exceeding 8 ends on one selvage & 9 on the other. Types XX, XXIII, and XXII: See spec. for diagrams. Types XIV, XVIII, XIX, and XXI: a 5 up, 1 down, 1 up, 5 down herringbone twill with 1 reversal in center. See diagram. Type XXIV: 2 up, 2 down herringbone twill with 3 reversals. See diagram. Type XXVI: See spec.	Intended Use- In parachutes and their accessories, tow target reinforcement, safety belts, bomb hoists and slings, tie-down equipment, and over-run barriers.
Type I				
Type Ia				
Type II				
Type III				
Type IV				
Type VI				
Type VII				
Type VIII				
Type VIIIa				
Type IX				
Type X				
Type XII				
Type XIII				
Type XIV				
Type XV				
Type XVI				
Type XVII				
Type XVIII				
Type XIX				
Type XX				
Type XXI				
Type XXII				
Type XXIII				
Type XXIV				
Type XXV				
Type XXVI				

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight Oz/Yd	Width Inch	Warp Yarns - Full Width				Picks Per Inch	Breaking Strength Lb. Wt. (5100)	Elonga- tion % Max. (5100)	Thick- ness Inch (5030)	Shrinkage (Warp)
					Total	Face & Back	Slinder	Stuffer					
Webbing, Textile, Warp/Fill/Stuffer Woven, Cotton and Rayon Min/Max													
MIL-W-4576 (USAF) And. 2													
(±0.025) (±1/32)													
Type I		Warp: con- tinuous filament viscose rayon Fill: cotton, 8-ply	0.125	5/8	106				30	50		0.015- 0.020	2% max.
Type II			0.175	7/8	148				30	70		0.015- 0.020	2% max.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-4576 Type I Type II	(5) Use of dyestuffs, detergents, or other chemicals or finish- ing agents which would cause deterioration in storage or cause dermatitis on prolonged intimate skin contact is pro- hibited. pH: 5.0 - 9.0 (2811).	Color (1-6). Colorfastness- "good" (5614-5651-5620-5660- 5682).	Weave shall be plain, 1 up, 1 down.	Intended Use- In the construction of flying clothing.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight Oz./yd	Width Inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max. (5100)	Thick- ness Inch (5030)	Denier
Tape, Textile and Webbing, Textile, Reinforcing, Nylon	Warp/Fill	Stuffer	Min/Max	Total/Face & Back	Slender	Stuffer				V F B
MIL-T-5038D				(+1/32)						
Type II- Tape, herringbone twill weave		Bright, high ten- acity, heat & light resistant polyamide of polyhexa- methylene adipic acid or its der- ivatives.	- 0.40 - 0.60 - 0.80	1 1-1/2 2	96 144 192	40 40 40	900 1300 1700	18 18 18	0.025- 0.035 "	840 210 840 210 840 210
Type III- Tape, plain weave		resistant polyamide of polyhexa- methylene adipic acid or its der- ivatives.	- 0.12 - 0.15 - 0.20 - 0.30 - 0.40	3/8 1/2 3/4 1 1-1/2	74 100 150 200 300	33 33 33 33 33	200 250 400 525 900	18 18 18 18 18	0.015- 0.025 " " "	210 420 210 420 210 420 210 420 210 420
Type IV- Webbing, plain weave		resistant polyamide of polyhexa- methylene adipic acid or its der- ivatives.	- 0.35 - 0.40 - 0.50 - 0.60 - 0.75	1/2 5/8 1 1-1/8 1-1/2	99 123 197 221 293	8 10 16 18 24	550 625 1000 1100 1500	18 18 18 18 18	0.030- 0.040 " " "	420 420 420 420 420 420 420 420 420 420
Type V- Tape, herringbone twill weave			- 0.20	9/16	42	32	500	18	0.020- 0.030	840 420
Type VI- Tape, herringbone twill weave			- 0.20	3/4	150	38	425	18	0.020- 0.030	210 420

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-T-5038D Type II Type III Type IV Type V Type VI	(5) pH: 5.0 - 8.5 (2811).	Color- Types II, III, IV and V: color shall be natural unless other- wise specified. Type VI: (1). Standard samples available (3). Colored tape and webbing shall be yarn or piece dyed. Colorfastness- Standard sample available (5614).	Tape or webbing shall not lose more than 25% of original breaking strength on exposure to light and heat (4.3.2- 4.3.3). See spec. for weave instructions.	Intended Use- For binding & reinforcing applications in parachute packs and similar purposes and for equipage.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight Lin Yd/Lb	Width Inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max. (5100)	Thick- ness Inch (5030)	
Type and Weave, Yarn Textile Rayon MIL-T-5237C	Warp	Fill	Stuffer	Min	Max	Total	Face B	Binder	Stuffer	
										Back
Type I- Flat weave tape		Bright, multifila- ment vis- cose rayon	200 - 100 - 80 -	(4) 9/16 1-1/8 1-1/4	48 94 116	36 36 30	50 100 140			
Type Ia- Flat weave webbing		Fill: 5 den. min.	100 - 40 - 32 - 15 -	3/8 9/16 1 1-5/8	30 280 90 136	36 21 36 36	160 500 500 750			
Type II- Tubular weave webbing			125 - 100 - 40 - 40 - 23 -	1/8 3/16 1/2 9/16 5/8	23 30 81 81 130	24 30 30 30 52	150 200 500 500 900			

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-T-5237C Type I Type Ia Type II	(5) Tape or webbing shall have a smooth even finish. pH: 5.5 - 8.5 (2811).	Color- Unless otherwise specified, color shall be the natural white of the finished rayon yarn. Colorfastness- "good" (4630). When specified, tape or webbing shall contain 1 end of warp yarn dyed Red to match Cable No. 70180 and woven into the center of the face of tape or webbing. Use of solution dyed yarn is permissible.	See spec. for weave instru- ctions.	Intended Use- In the manufacture of parachute canopies for bombs.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight yd/lb	Width inch	Warp Yarns - Full Width	Picks Per inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max. (5100)	Thick- ness inch (5030)	Denier
Tape, Parachute Canopy, Textile, Nylon	Warp/Fill	Stuffer	Min/Max		Total/Face & Back	Binder	Stuffer			W F
MIL-T-5608F (ASG)										
Class A- Extra lightweight		Class A:		(4)	Self- vage					
Types: I		normal ten-	1300 -	0.250	72 12	140	13	13		20 40
II		acity light	875 -	0.375	104 12	140	18	18		20 40
III		resistant	440 -	0.625	237 32	140	43	18		20 40
IV		nylon.	260 -	1.250	352 32	140	65	18		20 40
V			165 -	2.000	537 32	-	96	18		20 40
Class B- Light- weight		Classes B, C, D & E:								
Types: I		bright	970 -	0.250	86 12	118	22	18		30 40
II		high ten-	650 -	0.375	126 12	118	33	18		30 40
III		acity, heat	360 -	0.625	237 32	118	70	18		30 40
IV		& light	210 -	1.250	392 32	118	120	18		30 40
V		resistant	120 -	2.000	657 32	-	200	18		30 40
VI		nylon.	50 -	5.000	1616 32	-	100	18		30 40
							(1b/in) (5104)			
Class C- Medium weight		All Classes:								
Types: I		polyamide	770 -	0.250	100 12	82	39	22		40 40
II		of hexame-	520 -	0.375	148 12	82	58	22		40 40
III		thylene di-	335 -	0.625	227 32	82	90	22		40 40
IV		amine & adi-	160 -	1.250	457 32	82	185	22		40 40
V		pic acid or	100 -	2.000	757 32	80	300	22		40 40
(Continued)		its deriva- tives. Melt- ing point: 250+6°C.								

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-T-5608F Class A Class B Class C (Continued)	Yarn of tape shall not be bleached in any manner or pro- cess. pH: 5.0 - 9.0 (2810).	Color- Unless otherwise specified, color shall be natural, except for Class B, Type VI, which shall be dyed inter- national orange, color No. 12197 of Fed. Std. No. 595, and Class C, Type V, which shall be yarn or piece dyed yellow, Air Force color No. 1365 (3). Colorfastness- Standard sample available (5660- 5651).	Weave: Unless otherwise speci- fied, weave of body of cloth shall be a conventional 2-up, and 2-down right-hand twill, except that for Class E, Type VI, warp ends shall weave 2 ends as 1. Unless otherwise specified, selvage weave for Classes A, B, and C shall be a double weave of conventional hatband type. For Classes D and E, there shall be no addi- tional selvage ends. Air Permeability: Class A, Type V; Class B, Types V and VI; and Class C, Type V- 150+30 cfm/ sq ft. Finished tape shall not lose more than 25% of its ori- ginal strength when exposed to heat and light (4.2.3.2.1 - 4.2.3.2.2).	Intended Use- In the fabrication of parachutes of tape-type con- struction known as "ribbon parachutes".

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight yd/lb	Width inch	Warp Yarns - Full Width	Picks Per inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max. (5100)	Thick- ness inch (5030)	Denier
Type, Parachute Canopy, Textile, Nylon	Warp	Fil	Stuffer	Min	Max	Total	Faces a Back	Binder	Stuffer	W F
MIL-T-5608 (ASG) (Cont'd)										
Class D- Heavy weight				(4)		Self- vage				
Types: I	See p. 265.	80	-	1.250	94	0	52	280	1d	210 210/2
II		45	-	2.000	154	0	52	460	18	210 210/2
Class E- Extra heavy-weight										
Types: I	See p. 265.	50	-	1.250	240	0	36	650	18	210 210/2
II		30	-	2.000	378	0	36	1000	18	210 213/2
III		22	-	2.000	280/1	0	36	1500	-	420 420
IV		17	-	2.000	378/1	0	36	2000	-	420 420
V		13	-	2.000	260	0	26	3000	-	840/1 840/1
VI		11	-	2.000	350	0	24	4000	-	840/1 420/1

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
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MIL-T-5608F
(Cont'd)
Class D
Class E

For additional information see page 265.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz./yd	Width Inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max. (5100)	Thi- ness Inch (503)
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Webbing, Textile, Warp, Fill, Stuffer	Min	Max	Total	Face & Back	Binder	Stuffer	Max.
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Sizes:	Bright, high	-	0.50	1/2	111	26	1000	0.090
	tenacity,	-	0.60	9/16	137	26	1500	0.090
	heat & light	-	0.70	5/8	81	26	1250	0.100
	resistant	-	1.05	3/4	109	26	2300	0.120
	polyamide of	-	1.70	1	159	26	4000	0.120
	hexamethylene							
	diamine & adic							
	pic acid or its							
	derivatives.							
	Melting point:							
	482° F. min.							
	Singles yarn,							
	840 denier							
	+5%, 140							
	Filament.							

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTE (Not Specification)
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MIL-W-0056257		Color- Except for identification yarns (see spec.) webbing shall be furnished in natural and Yellow No. 1365 as specified. Standard samples available (3). When dyed webbing is required, webbing shall be piece dyed. Colorfastness- Standard sample available for dyed webbing (5660-5614). Webbing shall not be bleached in any manner or process.	Weave shall be tubular, plain, 1-up and 1-down. Residual shrinkage of natural and dyed webbing shall be no more than 2% (4.3.4). Webbing shall lose no more than 25% of original breaking strength when exposed to heat and light (4.3.2-4.3.3).	Intended Use- For parachute construction
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NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz./lin yd	Width inch	Warp Yarns - Full Width			Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elonga- ti. % Max. (5100)	Thick- ness inch (5030)	Yarn Ply Min.
Tape and Webbing, Warp Textile, Cotton Reinforcing, Woven MIL-A-5661C	FINI	Stuffer	Min/Max		Total	Face & Back	Binder	Stuffer			W	F
(±1/32)												
Type I- Plain Sizes:		Cotton	- 0.11	1/4	7				20	80	4	2
			- 0.15	3/8	10				20	120	4	2
			- 0.22	1/2	14				20	150	4	2
			- 0.28	5/8	18				20	170	4	2
			- 0.33	3/4	22				20	200	4	2
			- 0.47	1	30				20	250	4	2
Type II- Double herringbone Sizes:		Cotton	- 0.15	1/2	142				48	110	2	2
			- 0.22	3/4	212				48	165	2	2
			- 0.29	1	284				48	220	2	2
			- 0.36	1-1/4	356				48	275	2	2
			- 0.43	1-1/2	426				48	330	2	2
			- 0.50	1-3/4	496				48	375	2	2
			- 0.57	2	568				48	425	2	2
Type III- Twill Sizes:		Cotton	- 0.10	1/2	64				60	45	2	1
			- 0.12	5/8	85				60	55	2	1
			- 0.14	3/4	96				60	75	2	1
Type V- Plain (Transverse cord) Sizes:		Cotton	- 0.65	1	48				16	350	4	4
			- 1.30	2	96				16	650	4	4
Type VI- Nonelastic Sizes:		Cotton	- 0.23	5/8	-	95	22	37	46	80	See spec.	
			- 0.98	1	-	112	30	31	52	375	See spec.	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-A-5661C Type I Type II Type III Type V Type VI	(5) Type I tape and webbing shall be compatible with aircraft dope. Dope shall dry within 45 min. and show no signs of cracking and peeling when applied to finished tape and webbing as specified in 4.4.7. pH: 6.0 - 8.0 (2811).	Color- Unless otherwise specified, color for all Types shall be natural (unbleached). When an Olive Drab color is specified, it shall match TCA Cable No. 66022, Shade 8-1 (U.S. Army Olive Drab). Colorfastness- "good" (5651-5630-5632-5660).	Weaves- Type I: Plain (1-up 1-down). Type II: 2-up, 2-down herringbone twill weave, having 3 reversals of twill, 1 at center & 1 on each side of center midway between center & edge. All ends shall be woven singly in the warp. Type III: a 2-up, 2-down twill with reversal at 1/4 and 3/4 of the width. Type V: Plain, with 2 warp yarns weaving as 1, except that at the selvage there shall be 3 warp yarns weaving singly. Type VI: Weave known commercially as "nonelastic." See spec. for diagram.	Intended Use- Type I: For reinforcing tape on cloth under lacing cords on airfoil sections. Types II, III, V and VI: For building and reinforcing applications in parachute packs.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz./lin yd	Width inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elonge- tion % Max. (5100)	Thick- ness inch (5030)	
Webbing, Textile, Elastic, Cotton MIL-W-5664B	Warp	Fill	Stuffer	Min	Max	Total	Face & Back	Binder	Stuffer	
Class 1		Cotton	-	0.28 0.38 0.53 0.55 0.73 1.00 1.60 2.00	(4) 3/8 1/2 3/4 7/8 1 1-1/2 2 2-1/2					.016-.046 .016-.046 .016-.046 .016-.046 .016-.046 .016-.046 .031-.061 .031-.061
Class 2		Cotton	-	2.30	1-1/2					.094-.156
Class 3		Cotton	-	2.35	1-1/2					.094-.156

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-5664B Class 1 Class 2 Class 3	pH: 6.0 - 9.0 (2811).	Color- Webbing shall be yarn or piece dyed. Class 1: Natural or dyed (1). If Sage Green is specified, webbing shall be dyed to match shade sample for Sage Green color No. 531. When natural is specified, webbing shall be unbleached. Class 2: Natural or dyed (1). When specified, face shall be black & back white. Black shall conform to TCA Cable No. 66507 shade G (Black), and white shall conform to TCA Cable No. 70001 white (crepe side). Sage Green Color No. 531. Class 3: Unless otherwise specified, shall match TCA Cable No. 66022 shade S-1, U.S. Army Olive Drab. Sage Green shall match shade sample for Sage Green No. 531. Colorfastness- "good" (5651-5660-5630).	See spec. for amount of load to produce 50% elongation & for low temperature elongation resistance. Drift of load on webbing, elongated & maintained at 50% elongation for 4 hours, shall be not more than 20% (4.6.2). After webbing has been elongated and maintained at 50% elongation for 10 min, and then allowed to rest for 10 min., the webbing tension set (change in length of sample) shall be not more than 5%. Same requirement shall hold after heat aging.	Intended Use- Class 1: For headbands for aviator's face masks and goggles, parachute packs and harnesses, service cap covers, gloves, waist bands, and for harness elastic on gas mask face pieces. Class 2: For suspenders. Class 3: For parachute packs and rip-cord grip pocket for parachutes.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz/yd	Width Inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max. (5100)	Thick- ness Inch (5030)	Fly of Warp Ends Min.
Webbing, Textile, Warp/Fill/Sluffer			Min/Max		Total/Face/Binder/Sluffer					
Cotton Warp					Back					
MIL-W-5665B, Amd. 1										
Class 1A- Undyed & not fungus proofed		Warp: Cotton		(4)						
Class 1B- Undyed & fungus proofed		Fill: For types I-VII, IX, XII, XIII, XVII, XVIII, and XIX-								
Class 2A- Dyed & not fungus proofed		Cotton. For Types VIII, XV, and XVI-								
Class 2B- Dyed & fungus proofed		bright, high tenacity, heat & light resistant								
Class 3- Resin dyed & fungus proofed during dyeing		polyamide of hexamethylene diamine & adipic acid or its derivatives.								
Types: I		Unbleached.	- 0.40	9/16	68	20	350	.040-.050	4	
II			- 0.75	1	122	20	575	.040-.050	4	
III			- 0.90	1-1/4	158	20	750	.040-.050	4	
IV			- 2.50	3	200	16	1900	.050-.100	3	
V			- 4.30	5	350	16	3100	.050-.100	3	
VI			- 2.10	1-3/4	116	11	1800	.070-.090	5	
VII			- 3.00	1-3/4	122	24	2600	.140-.170	7	
VIII			- 3.00	1-3/4	132	10	2900	.075-.095	7	
IX			- 4.65	3	175	12	4500	.090-.115	6	
X			- 3.50	1-3/4	160	20	5000	.130-.150	6	
XII			- 1.25	1-3/4	220	20	1000	.040-.050	4	
XIII			- 3.40	1-3/4	126	11	3400	.100-.130	6	
XV			- 3.50	1-3/4	150	20	4500	.130-.150	6	
XVI			- 2.60	1-3/4	124	10	2700	.095-.115	7	
XVII			- 1.25	1	70	11	1000	.075-.095	5	
XVIII	(+3%)		- 1.40	2-1/2	270	20	1250	.050-.060	4	
XIX	11/9 10/4 8/7		3.68	2	-	139 33	2500	.130-.01	-	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-5665B	(5)	Color- Webbing shall be natural, dyed Olive Drab No. 7, or other color as specified. Standard samples available (3). Classes 2A & 2B: Oil dyeing is prohibited (5). Shade of dyed webbing prior to application of finish shall match standard sample. Class 3: Resin dyed with fungus resistant treatment added during dyeing process. Dyed and finished webbing shall match standard sample. Colorfastness- Classes 1A, 1B, 2A & 2B: standard sample available (5651-5660). Class 3: standard sample available (5651-5671-5630). See spec. for instructions on colored marking threads.	Shrinkage of finished webbing shall not exceed 12.5% (4.3.1). Weave- Types VII & X: See spec. for diagram. Weave for Type XIX shall consist of a face warp & a back warp bound together by a binder warp & a filling. Face warp shall weave plain, with the picks that show on the face, and the back warp shall weave plain with the picks that show on the back. Binder warp ends shall weave over 2 and under 2. Weave for all other types: 2-up, 2-down herringbone twill with 1 twill reversal in the center of the webbing.	Intended Use- In cargo parachute harnesses & packs, cargo drop kits, cargo tie down lines, hoists and slings, life raft belts and crew bunk safety belts. Copper-8-quinolinolate is to be used in fungus proofing of webbing intended for equipment subject to considerable ground contact under conditions of actual use, and where color is not of primary importance. It is not to be used on webbing in contact with natural rubber materials. 2,2' methylene-bis-(4-chlorophenol) is to be used where color is of prime importance or where webbing may be in contact with natural rubber materials.
Class 1A	Webbing shall be subjected only to light spring calendering to smooth out surface. Class 1B, 2B & 3 shall be treated with either copper-8-quinolinolate or 2,2' methylene-bis-(4-chlorophenol) mildew inhibitor agents as specified. Copper-8-quinolinolate: Webbing shall be mildew resistant treated by evenly depositing within the webbing a min. of 0.13% to a max. of 0.40% copper as metal from copper-8-quinolinolate, using method of application outlined in spec. 2,2' methylene-bis-(4-chlorophenol): Webbing shall be treated to resist mildew with 1.1-1.6% of 2,2' methylene-bis-(4-chlorophenol), using method of application outlined in spec. pH: For Classes 1B, 2B & 3: 5.5 - 8.5 (2811).			
Class 1B				
Class 2A				
Class 2B				
Class 3				
Type I				
Type II				
Type III				
Type IV				
Type V				
Type VI				
Type VII				
Type VIII				
Type IX				
Type X				
Type XII				
Type XIII				
Type XV				
Type XVI				
Type XVII				
Type XVIII				
Type XIX				

NARROW FABRICS

NOMENCLATURE	Yarn Number		Fiber	Weight		Width Inch	Warp Yarns - Full Width				Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max. (5100)	Thick- ness Inch (5030)	Yarn Fly	
				oz/lin yd												
Tape, Textile, Nylon, Parachute, Construction MIL-T-6134B	Warp	Fill	Stuffer	Min/Max			Total	Face & Back	Binder	Stuffer					W	F
					(+1/16)											
Type I			Nylon (a)	-	0.40	1	206				44	525	16	0.025-.045	1	4
Type II			Nylon (a)	-	0.145	1	104				58	300	14	0.010-.030	1	2

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-T-6134B Type I Type II		Color- Unless otherwise specified, color for both Types shall be natural, except for identification yarns for Type I. If color is specified, specific colorfastness requirements shall be as specified by procuring activity.	(a) Polyamide of hexamethylene diamine & adipic acid or its derivatives. Melting point: 250+6°C. Warp: 210 denier, high tenacity, bright filament. Fill: Spun: nylon of 20/4 for Type I, and 60/2 for Type II (+5%). Weave- Type I: Tubular, plain weave. Warp ends nry weave 2 ends as 1, or 1 end as 1. Type II: 2-up, 2-down herringbone twill, with 1 reversal in the middle. Tape shall have a woven selvage.	Intended Use- In the manufacture of parachutes. Type I: In skirt bands for parachutes. Type II: for reinforcing bands on parachutes.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz./yd	Width inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max. (5100)	Thick- ness inch (5030)	Yarn Ply
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Webbing, Textile, Warp, Fill, Stuffer	Min	Max	Total	Face & Back	Stuffer	W	F	B
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MIL-W-8630C, And. 2

(4)

Types: I	Bright nylon. All	- 2.40 (initial)	1-15/16	200		22	5300	.075-.095	10	- 6
II	Type but IV: 210 den. 3/4 filament.	- 2.65 (impregnated)	1-15/16	196		17	5500	.055-.075	10	- 10
III	Type IV: 840 den. 140 filament. All yarn shall be sunlight resistant type.	- 2.45 (initial) - 2.45 (impregnated) - 4.20 (initial) - 4.60 (impregnated)	3	309	37	28	8200	.080-.100	10	7 10
IV		- 5.10 (initial) - 5.60 (impregnated)	1-15/16	246	40	21	13000	.170-.180	5	4 10
V		- 2.90 (initial) - 3.20 (impregnated)	1-23/32	225	29	22	6500	.080-.100	10	4 7
VI		- 3.70 (initial) - 4.05 (impregnated)	1-23/32	305	37	22	8700	.110-.130	10	4 10
VII		- 1.70 (initial) - 1.90 (impregnated)	1-23/32	132		18	3600	.055-.080	10	- 10

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
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MIL-W-8630C

(5)
Webbing shall be impregnated with a suitable natural rubber latex compound containing the necessary curatives & antioxidants. Webbing shall be saturated by total immersion in a latex bath for a period of time sufficient to allow penetration to the core of the web. Excess may be removed by suitable devices. Totally impregnated webbing shall then be properly dried and vulcanized to develop maximum physical properties. Use of any dyestuffs, detergents, curative methods, impregnating compounds, or other chemical or finishing agents which are known to cause deterioration in storage or cause dermatitis on prolonged intimate skin contact or increase the flammability of the webbing is prohibited.

Color- Unless otherwise specified, color of Types I & II shall match TCA Cable No. 16522 Cinder Gray. Other Types shall match TCA Cable No. 66022, Shade S-1 (U.S. Army Olive Drab). Webbing shall be uniformly dyed before any finishing agent is applied, and before impregnation. Color penetration shall be good in both warp & fill. Metallized or chrome dyes shall not be used. Colorfastness- "good" (5660-5614).

See spec. for weave instructions. Webbing shall lose not more than 5% of original strength after abrasion (4.5.2.4). Breaking strength of impregnated webbing shall not be less than 80% of unexposed untreated webbing after exposure to acc. weathering (4.5.2.5). Webbing shall display no appreciable stiffening or change in pliability when subjected to low temps. (4.5.2.6). Webbing shall lose no more than 5% of original breaking strength after acc. oven aging. After cooling, aged webbing shall display no stickiness or gumming (5850).

Intended Use- In the manufacture or aircraft tie-down and armament-handling equipment, and other safety devices.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz/lin yd	Width inch	Warp Yarns - Full Width	Picks Per inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thickness inch (5030)	
Webbing, Textile, Warp Cotton, Stow-Loop MIL-W-9406 (DEAF)	26/2 30/2	Cotton	8.19 9.0	3-1/2 (+ 1/8)	Total Face & Back	46	1100		.085+.015	

Tape, Textile,
1-Inch
MIL-T-10372A (MU)
26/2 30/2 Cotton 0.20 - 1 114 46 (5102)
(+1/16) 140

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-9406	Use of dyestuffs, detergents, or other chemical or finishing agents which would cause deterioration or affect color in storage or cause dermatitis on prolonged intimate skin contact is prohibited.	Color- Color of webbing and loops shall be natural, except for 1 binder thread, which shall be black (6). Colorfastness- "good" (5651).	See spec. for weave diagrams.	Intended Use- In the manufacture of troop-type parachute packs.
MIL-T-10372A		Color- Shall be Olive Drab shade No. 7 (6).	(2) Weave shall be a 4-harness herringbone twill, 2/2, with 5 divisions alternating to the right and to the left. Cloth shall be mildew resistant and non-toxic on the skin.	Intended Use- For use with the ABC-M dust respirator.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz./lin yd	Width inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength lb. Min. (5100)	Elonga- tion % Max. (5100)	Thick- ness inch (5070)	
Webbing, Textile, Warp/Fill/Stuffer			Min/Max		Total/Face/Binder/Stuffer					
Woven, Low Elongation					Back					
MIL-W-10828C (OL)										
And. 1										

Type I- Low strength	12/3	Cotton & continuous filament	(±5%) 1.00	(±1/16) 1.0	Body 78	Edges 18	14	15	56	600	8 at 600 lb.
Type II- High strength	12/3	seponified acetate	2.05	1.5	120	18	21	88	56	2000	8 at 2000 lb.
Type III- Super strength	12/3	stuffer of 270 denier, 9 ply.	3.40	1.5	120	18	21	196	84	5000	8 at 5000 lb.

Class 1- Undyed
Class 2- Undyed, water repellent & mildew resistant finish.
Class 3- Dyed, water repellent & mildew resistant finish.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-10828C Type I Type II Type III Class 1 Class 2 Class 3	(5) Class 2 & 3 webbings shall be water repellent & mildew resistant treated. The water repellent shall consist of aluminum salts of saturated carboxylic acid (such as formate, acetate, palmitate, or stearate) mixed with refined mineral and vegetable waxes. Product shall be applied either as an aqueous emulsion or as a water-free solvent solution. Dynamic absorption of treated webbing: 40% max. Mildew resistant treatment shall be through an even depositing of 0.3-0.40% copper as metal from copper-8-quinolinolate, by the method outlined in the spec. Webbing shall be dried after finishing with sufficient tension for elongation. pH: Classes 2 & 3: 5.5 - 8.5 (2811).	Color- Unless otherwise specified, color of Class 3 webbing shall be Olive Drab No. 7, and the color of finished webbing shall match standard sample (3). Color of Class 2 webbing may deviate from natural by that degree imposed by the finishes. Class 3 webbing shall be stock or yarn dyed. Only those warps specifically listed as "stuffer warps" may, if properly covered, be undyed. Good dye penetration. Webbing shall be soaped & washed after dyeing (6). Colorfastness- Standard sample available. Class 2: (5651). Class 3: (5651-5671).	(2-7). See spec. for weave diagrams.	Intended Use- As framing in manufacturing of tents and liners, and backs for packboards, and other special applications requiring low elongation webbings.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz/lin yd	Width inch	Warp Yarns - Full Width	Picks Per inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max. (5100)	Thick- ness inch (5030)	
<u>Tape, Textile, Cotton for Bando-leers</u> MIL-T-13452A (ORD)	Warp	Fill	Stuffer	Min	Max	Total	Face & Back	Binder	Stuffer	
			Cotton	0.35	0.39	1-3/8 (-1/8) (no +)				185 warp 66 fill

Webbing, Woven,

Nylon

MIL-W-17337A (NAVY)

(+1/16)

Woven
Tubular

Sizes:

Bright,	-	0.71	1	119	96	22	48	1200
high ten-	-	1.07	1-1/2	179	144	34	48	1800
acity, con-	-	1.42	2	239	192	46	48	2200
tinuous fila-	-	2.2	3	356	288	68	48	3200
ment nylon,								
840 denier.								

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-T-13452A	(5) Chloride content: no more than 0.020%. pH: 7.0 - 8.0 (2810).	Color- Shall be Olive Drab No. 7, and shall be produced by vat dyes to match approved standard shade (3-6). Chromium salts shall not be used for oxidation of vat dyestuffs. Colorfastness- Standard sample available (5651- 5610-5600-5660).	Weave: Unless otherwise spec- ified, weave shall be 2/2 herringbone twill.	Intended Use- In making bando- leers for small arms ammunition.
MIL-W-17337A	(5) No extraneous weighting material shall be added to the webbing.	Color- Unless otherwise specified, webbing shall be dyed Orange-Yellow conforming to shade No. 33538 of Fed. Std. 595 or Dark gray conforming to dry standard color chip of MIL-P-699 (1-3). Colorfastness- Standard sample available (5651- 5660-5610).	(2) Weave: Webbing shall be of tubular construction, with a 1-up and 1-down weave, with the exception of the binder ends, which shall be evenly spaced across the width of the webbing and shall be woven plain, 2 ends weaving as 1.	Intended Use- In the manufacture of life preservers and other equipment.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz/lin yd	Width inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongo- tion % Max. (5100)	Thick- ness inch (5030)	
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Tape, Nylon; Elastic; 1/2-Inch MIL-T-17964A (MC)	Warp	Fill	Stuffer	Min	Max	Total	Face & Back	Binder	Stuffer	
			200/34 or 210/34 den. nylon & 37 gauge extru- ded natural rounded rubber.	0.5	1 (+ 1/16) (- 1/32)	65	32 min. Rubber		69+5	(4121 of 601) 130

Webbing, Textile; Knitted, Nylon; Elastic 4-1/4 Inch-Width MIL-W-17965A (MC)	Wales	Ribs								
	50 gauge ex- truded natural round rubber elastic wrapped with 70 & 200 den. nylon. Knitting yarns: 210 den. nylon.	2.2 2.6 (+1/8)	4-1/4 (+1/8)	22 (+2)		19+2			(4121 of 601) 200 (+0.038)	0.038 (+0.003)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
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MIL-T-17964A		Color- Unless otherwise specified, color shall be Olive Drab No. 7. Colorfastness- "good" (5651-5622-5660-5682).	(2) Tape shall be made on a carrier braider. Ends per carrier: 2 min. Weave: 2/2.	Intended Use- For use on Marine Corps clothing and equipage items.
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MIL-W-17965A		Color- Unless otherwise specified, color shall be Olive Drab No. 7. Colorfastness- "good" (5651-5622-5660-5682).	(2) Total sewing sections (warp): 6 min. No. of ends per sewing section: 6 min. Knitted webbing shall have a transverse web of interlocking and interconnecting warp and filling yarns with a selvage at each edge. Laid-in elastic warps shall consist of a rubber core wrapped first with 2-ply, 70 denier nylon, and then wrapped with single ply, 200 denier nylon.	Intended Use- On Marine Corps clothing and equipage items.
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NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz./yd	Width Inch	Warp Yarns - Full Width	Pk Per Inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max. (5100)	Thick- ness Inch (5030)	
Cloth, Glass; Tape, Textile, Glass; and Thread, Glass	Warp Fill Stuffer		Min Max		Total Face Binder Stuffer & Back					
MIL-C-20079C, Amd. 1 (See also under Synthetic Cloths)										
Type I- Cloth (See Synthetic Cloths)										
Type II- Tape Class 1- Plain weave, untreated		Continuous filament fibrous glass	(+10%) (untreated) 5.80	(1)	42±2	32±2	(5104) 150 (initial) 40 (after heating)			
Class 2- Plain weave, treated			5.80 (untreated) 7.05 (treated)	(1)	42±2	32±2	150 (initial) 40 (after heating)			
Class 3- Knitted, untreated			11.25	(1)	10±2	22±2	15 (initial) 9 (after heating)			
Type III- Thread Class 1- Medium weight sewing			(yards/lb) 640				48			
Class 2- Heavy weight sewing			350				75			

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-C-20079C Type I Type II Class 1 Class 2 Class 3 Type III Class 1 Class 2	Unless otherwise specified, Class 2 tape shall be treated with a suitable synthetic resin.		Weave: Class 1 and Class 2 tape shall be plain woven. Ends shall be properly inter- locked with picks to insure that there shall be no ravel- ling of tape edges. Class 3 tape shall be knitted. Wales shall be properly interlocked with courses to insure that there shall be no raveling of tape edges. Construction of tape shall be such that there shall be no distortion of the tape such as curling.	Intended Use- As a lagging material or jacket over thermal insulation.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight oz./lin yd	Width inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongo- tion % Max. (5100)	Thick- ness inch (5030)	Ply
Webbing, Textile, Nylon-Pneumatic Life Preserver MIL-W-21733 (AER)	Warp	Fill	Stuffer	Min	Max	Total	Face & Back	Binder	Stuffer	W F

Type I- Harness webbing	210/4	210/4	210/4	binder	-	1.07	1-1/2 (+1/15)	178	144	34	48	1800		
Type II- Acc- essory webbing	210/2	210/4		Bright, high ten- acity, 210 den. nylon. Melting Point: 250-260°C.	-	0.40	1 (+1/32)	100	100		40	575		

Webbing, Nylon, Slotted (For Cargo Ships)

MIL-W-23223 (SHIPS)							(+1/16)							
Type I				840 denier ultra-vio- let resis- tant, high tenacity	2.3	-	1-3/4	280			24+1	6000 (initial) 90% (after abrasion)	0.080-0.110	2 2
Type II				continuous filament nylon.	1.7	-	1-1/4	200			24+1	4500 (initial) 90% (after abrasion)	0.080-0.110	2 2
Type III					1.28	-	1	160			24+1	3500 (initial) 90% (after abrasion)	0.075-0.100	2 2

Class A- Anti-static
treated.
Class B- Standard
treated.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
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MIL-W-21733
Type I
Type II

Color- Unless otherwise
specified, color shall
be Orange Yellow to
match TCA Cable No.
70068, Spanish Yellow
(crepe side).
Colorfastness- "good"
(5660).

Weave- Type I: A double plain
weave, 1 end as 1 with a single
filling. Binders shall be drawn
to weave in groups of 2. See
spec. for instructions. Type
II: 2-up and 2-down herringbone
twill with 1 reversal in center.

Intended Use- In the manufacture
of various pneumatic life
preservers.

MIL-W-23223
Type I
Type II
Type III
Class A
Class B

Unless otherwise specified,
webbing shall be impregnated
with a suitable polychloro-
prene compound containing
the necessary curatives, pig-
ments, acid acceptors, flame-
proofing compounds, and anti-
oxidants. A deposit of not
less than 3% solids shall be
made. If anti-static webbing
is required, conductive rub-
ber latex impregnation shall
be used in lieu of polychloro-
prene. Anti-static treatment
shall increase weight of
webbing by 7-14%. Yarn shall
be substantially free from
sizing, loading, or other
adulterants.

Color- Webbing (exclu-
ding markers, web inser-
tions, and anti-static
treated webbing) shall
be Olive Drab. The anti-
static treated webbing
shall result in a char-
coal color from the
treatment with conductive
rubber latex so that it
is readily identifiable.
Yarn shall be yarn or
piece dyed with acetate
dyes. Olive Drab color
dyes are not required
in anti-static treated.
Metallized or chrome
dyes shall not be used.
Colorfastness- "fair"
(5600-5614).

Weave: A double plain weave
with filling acting as binder.
Shall have integrally woven
slots. See diagram. See spec.
for length & spacing of slots.
Webbing shall not stiffen at
low temps (4,5,2). See spec.
for weight of polypropylene
& rubber to be used. Use of
dyes, detergents, or other
chemical or finishing agents
which would cause deteriora-
tion in storage, cause der-
matitis on prolonged skin
contact, or increase the
flammability of the webbing
is prohibited.

Intended Use- In fabrication
of cargo slings.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight Oz/Yd	Width Inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elonga- tion % Max. (5100)	Thick- ness Inch (5030)	Fly
Webbing, Textile, Varp, Fill, Stuffer Dacron MIL-W-25339 (USAF)			Min/Max		Total Face & Back					V F
Types: I		220 denier continuous filament	- 1.30	1-23/32	108	18	1800		.040-.050	7 9
II		high tenacity type	- 1.80	1	120	20	3000		.110-.140	10 10
III		5100 dacron	- 3.75	1-23/32	320	20	8700		.125-.145	10 9
IV			- 4.55	2	346	18	9700		.110-.130	10 10

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-25339 Type I Type II Type III Type IV	(5) Finished webbing shall be heat relaxed at a temp. in excess of 350°F. in such a manner that no more than 2% shrinkage occurs in testing. (4.3.2.1). pH: 5.0 - 9.0 (2811).	Color- Shall be natural. See spec. for instructions on identification yarns.	Weave- Type I: a 2-up, 2-down herringbone twill with 1 reversal at the center of the webbing. Types II, III, IV: See spec. for diagram.	Intended Use- In the fabrication of parachutes for use where exposure to high temp. conditions is anticipated.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight	Width Inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thickness Inch (5030)	Ply
Webbing, Textile Polyester, Low Elongation MIL-W-25361A	Warp/Fill	Stuffer	Min/Max		Total/Face & Back	Binder	Stuffer			W F B
				(4)						
Type I- Untreated		Warp & fill for V & VI 1100 den.	- 1.65	1-23/32	154	19	3600	18 (2500 lb)	.050-.065	2 - 3
Type II- Untreated		semi-dull or bright high tenacity polyester	- 2.10	1-23/32	216	23	6000	13 (3000 lb) 17.5 (5400 lb)	.060-.080	2 - 3
Type III- Untreated		polyethylene glycol terephthalate. Melting point: 250°-260°C. Fill for I, II, III and IV: spun nylon 15/3+3% on the cotton system.	- 2.50	1-23/32	256	23	7000	12 (3000 lb) 17.5 (6300 lb)	.075-.090	2 - 3
Type IV- Untreated			- 3.75	3	346	32	8700	12 (3000 lb) 18.5 (7830 lb)	.065-.090	2 - 3
Type V- Latex treated			- 3.90	1-3/4	362	22	10000 (initial) 9000 (after abrasion) 95% (after acc. aging)	9 (3000 lb) 16 (9000 lb)	.110-.130	2 - 2
Type VI- Latex Treated			- 7.50	1-3/4	449	37	15000 (initial) 13500 (after abrasion) 95% (after acc. aging)	7.5 (3000 lb) 17.5 (13500 lb)	.215-.235	3 2 2

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-W-25361A Type I Type II Type III Type IV Type V Type VI	(5) Types I, II, III and IV webbing shall be untreated. Types V & VI shall be treated with a natural rubber latex. They shall be impregnated with a natural rubber latex containing the necessary curatives and antioxidants. Webbing shall be saturated by total immersion in a latex bath for a period of time sufficient to allow penetration to the core, and the excess shall then be removed to permit conformance to finished weight requirements. Webbing shall then be dried and vulcanized. pH: 5.0 - 8.5 (2811).	Color- Types I, II, III & IV shall be natural white or shall match standard sample for Air Force shade Sea Green No. 1001 or Olive Drab No. 7 (3). Types V and VI shall be Olive Drab No. 7 (3). Colorfastness- Standard sample available (5651).	See spec. for weave diagrams and instructions. Types V & VI shall show no evidence of stickiness or gumminess after acc. aging (5850). Types V & VI shall show a change in pliability of no more than +20% after low temps. and a further change of no more than +20% after acc. aging. (5206-5850).	Intended Use- In aircraft safety belts and restraining harnesses. Type VI webbing is intended for use as slings for heavy rockets and rocket warheads.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight	Width inch	Warp Weave - Full Width	Picks Per inch	Breaking Strength Lb. Min.	Elongation % Max.	Thickness inch	Ply
							(5100)	(5100)	(5030)	

Tape, Textile, Nylon, Loop	Warp	Fill	Stuffer	Min	Max	Total	Face & Back	Binder	Stuffer		W	F
MIL-T-26089 (USAF) Amd. 1			210 denier bright 3/4 filament high tenacity polyamide of hexamethylene & adipic acid or its derivatives. Melting point: 482°±10°F.	-	67 (yd/lb)	5/16 (tape & cord)	76 38 & 37		60	(4102) 175	0.030-0.040 (exclusive of cord)	1 3

Tape, Textile, Nylon, For Ring-Slot Parachutes
MIL-T-27736 (USAF)

840 denier 140 filament ultraviolet resistant nylon polyamide of hexamethylene diamine & adipic acid or its derivatives. Melting point: 250°±6°C.	3.5	11	48	36	(5104) 625 (warp) 450 (fill)
	(oz/lin yd)	(+1/4)			

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
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MIL-T-26089	(5) pH: 5 - 9 (2811).	Color - Tape shall match Air Force Sage Green shade No. 520 (3). Colorfastness- "good" (5651-5614-5660-5682).	Loop cord shall be manufactured in such a manner that the core yarns are held firmly in place to prevent puckering of core yarns when released from stress. See spec. for sleeve, core, and cord requirements. Weave: see spec. for diagram.	Intended Use- In flight clothing as a lacing tape.
MIL-T-27736	Finished tape shall be smooth and even, and shall contain no sizing, lubricating or weighting materials. Finish shall be permanent. Thickness shall not increase more than 10%, and cloth shall not shrink more than 5% in warp and fill (4.3.2.1). pH: 4.5 - 8.5 (2811).	Color- Shall be natural only.	Weave: See spec. for diagram. Selvage width: 1-1/8 ± 1/16 in. Breaking strength (warp) of selvage width: 900 lb. Air permeability: 70 ± 20 ft ³ /min/ft ² of cloth body.	Intended Use- In the fabrication of ring-slot parachutes. Existing narrow fabric looms may be used to weave the tape by folding over a 5-1/2 in. width on the loom that will unfold to an 11 in. finished tape off the loom.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight	Width Inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thickness Inch (5030)	Ply
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Tape, Textile, Nylon, Aromatic, Nonmelting, Parachute Canopy	Warp	Fill	Stuffer	Min	Max	Total	Face & Back	Binder	Stuffer	W	P
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MIL-T-38377 (USAF)	(Yds/Lb) (+0.0625)	Selva									
Type I	100 -	2	258	32	70	300 (initial) 85% (aged)	12			1	1
Type II	30 -	2	450	-	36	1000 (initial) 85% (aged)	12			1	2
Type III	12 -	2	320	-	26	3000 (initial) 85% (aged)	-			4	4

Braid, Textile, Cord-Edge, Polyester Fiber	(a)	(Ounces/ gross yds)	No. of Carriers	Ends/Carrier min.
MIL-B-40092A	60/4 or 30/2 Cotton & multifila- ment polyester conforming to Type I, Class 1 of V-T-285.	20 - 3/32-1/8 (cover) 3/16-1/4 (flat braid)	19 min. (cover) 21-25 (flat braid) 25 (flat braid)	3 (cover) 2 (flat braid)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/ Carrier, etc.)	NOTES (Not Specification Requirements)
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MIL-T-38377 Type I Type II Type III		Color- Shall be natural.	Weave- Body weave: A conven- tional 2-up and 2-down right- hand twill. Selva: Type I shall be a double plain weave of a conventional hatband type. Types II and III shall have no additional selva ends. Type I: Air permeability shall be 75±20 ft ³ /min/ft ² .	Intended Use- For use in the fabrication of parachute cano- pies of tape-type construction known as ribbon parachutes.
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MIL-B-40092A		Color- (1-6). Standard samples available (3). Colorfastness- Standard sample available (4614- 4680-4660-5651).	(2) (a)Cover: 70 denier, 3 ply (letter size A). Core: 220 denier, 3 ply, plied 3 times (number size 3). Flat braid and core sections shall be braided together in 1 opera- tion on a cord-edge braider. Cord section shall consist of a cover braided around a core of stuffer yarns. Flat section shall be reinforced with cotton yarns.	Intended Use- As piping on clothing.
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NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight	Width Inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min.	Elongation % Max.	Thickness Inch	Ply
			Min/Max		Total Face Binder Stuffer		(5100)	(5100)	(5030)	
Braid, Textile, For Cap Covers MIL-B-41803	Warp/Fill	Stuffer	Min/Max		Total Face Binder Stuffer					W F B
		Mercerized Cotton	70 - 1-3/4 (oz/gross yd) min.		40/6 Back	26	200			

Webbing, Textile, Nylon MIL-W-43042 (ORD)

		(oz/lin yd)								
Type I- 0.065 in. nominal thickness	Continuous filament									
Sizes:	bright high tenacity	- 0.40	1/2	49	5	24	550	0.050-	4	8
	nylon polyamide of hexamethylene diamine	- 0.60	3/4	73	8	24	800	0.079	4	8
	& adipic acid or its derivatives.	- 0.80	1	97	11	24	1100	"	4	6
Type II- 0.090 in. nominal thickness										
Sizes:	Melting point: 250°C.	- 1.20	3/4	109	13	24	2500	0.080-	8	8
	6°C. 210 den.	- 1.25	7/8	127	15	24	3000	0.100	8	8
	3/4 filament	- 1.30	1	143	17	24	3400	"	9	8
		- 2.00	1-1/2	213	26	24	5000	"	8	8
		- 2.80	2	287	35	24	6700	"	8	8
		- 3.20	2-1/2	359	44	24	8200	"	8	8
		- 3.90	3	431	53	24	10000	"	8	8

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-B-41803		Color (1). Standard sample available (3). For white, cotton shall be bleached. Colorfastness- standard sample available (4614-4600-4622-4660).	(2) No. of lines: 20 No. of carriers: 81; 2 ends per carrier. Braiding Type 2/2 plain. Shrinkage: 3% max. in the warp (5550).	Intended Use- As a component of cap covers used by military personnel.
MIL-W-43042 Type I Type II	(5) pH: 5 - 9 (2811).	Color- Unless otherwise specified, webbing shall be piece dyed with acetate or acid type dyes of color Olive Drab No. 34087 of Fed. Std. 595. Metallized or chrome dyes shall not be used. Colorfastness- "fair" (5662).	(2-7). Weave: Webbing shall be composed of 2 ground warps (face and back), 1 binder warp, and 1 filling. Face warp shall weave plain (1 end as 1), with picks that show on face, and the back warp shall weave plain (1 end as 1), with picks that show on back. Binder warp shall weave plain throughout.	Intended Use- For manufacturing carrying straps for fire control instruments.

NARROW FABRICS

NOMENCLATURE	Yarn Number	Fiber	Weight	Width Inch	Warp Yarns - Full Width	Picks Per Inch	Breaking Strength Lb. Min. (5100)	Elongation % Max. (5100)	Thickness Inch (5030)	Fly
Tape, Textile, Polyamide, High Temperature Resistant, Loop	Warp	Fil	Stuffer	Min	Max	Total	Face & Back	Binder	Stuffer	W F
MIL-T-81116 (WPS)		High strength aromatic polyamide, non-melting, 200 denier.	- 67 (yds/lb)	5/16 (tape & cord) 7/16 (tape & cord loop)	76	38 (face) 37 (back)	Cord 1 60 (4102) 375			1 3
Webbing, Cotton, 1.2 Oz., Bleached 2 Inch (USMA)										
P/Des 295 (Superseding MIL-W-1643)	16/3	16/3/4 - Cotton	1.2	(+1/16) (-1/32) 2	192		22	400		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Weave, Ends/Carrier, etc.)	NOTES (Not Specification Requirements)
MIL-T-81116		Color- Shall be Olive Green. Color shall be obtained by the utilization of solution dyeing.	Loop cord shall be constructed in such a manner and with such a yarn tension that core yarns are held firmly in place to prevent puckering of core yarns when released from stress. Weave- See spec. for diagram. See spec. for requirements for sleeve, core, and cord.	Intended Use- As a lacing tape in the anti-G coveralls, Mark 2A, and related clothing.
P/Des 295 (5)		Color- Fully bleached and may be supplemented with fluorescent optical brighteners.	See spec. for weave instructions.	Intended Use- In the manufacture of equipage.

REFERENCES

NARROW FABRICS

Textile Test Methods - CCC-T-191b

<u>Method</u>	<u>Title</u>
<u>Chemical</u>	
2810	Acidity (pH), colorimetric method.
2811	Acidity (pH), potentiometric method.
<u>Construction</u>	
5030	Thickness of cloth.
<u>Mechanical</u>	
4102	Strength and elongation, breaking; small cords, single strand.
5100	Strength and elongation, breaking, of woven cloth, grab method.
5104	Strength and elongation, breaking, of woven cloth, ravel strip method.
5202	Stiffness, directional; cantilever bending method (Tinius Olsen).
5206	Stiffness, drage and flax; cantilever bending method (Pierce formula).
<u>Air Permeability and Water Resistance</u>	
4500	Water absorption; sewing thread; dynamic method.
5200	Water resistance, dynamic absorption.
<u>Shrinkage Resistance</u>	
5550	Shrinkage in laundering; cotton, linen, and mixed cotton and linen cloth.
5558	Shrinkage, relaxation; wool cloth.
<u>Colorfastness</u>	
4600	Colorfastness to chlorine bleaching; cotton yarn, thread and cordage.
4610	Colorfastness to laundering; cotton and linen yarn, thread and cordage; Launder-Ometer Method.
4614	Colorfastness to laundering; wool, silk and rayon yarn, thread and cordage; Launder-Ometer Method.
4622	Colorfastness to wet cleaning (associated with dry cleaning); yarn, thread, cordage.
4630	Colorfastness to water; yarn, thread, cordage.
4660	Colorfastness to light; yarn, thread, cordage; accelerated method (Fade-Ometer).
4680	Colorfastness to perspiration; yarn, thread, cordage; perspirometer method.
5600	Chlorine bleaching; cloth.
5610	Laundering, cotton and/or linen; Launder-Ometer.
5620	Dry cleaning (petroleum solvent).
5622	Wet cleaning (with dry cleaning).
5630	Water, cold.
5632	Salt water and soap.
5651	Crocking of cloth.
5660	Light; accelerated (Fade-Ometer).
5662	Light; natural light method.
5671	Weather; accelerated method (National Weathering Unit).
5680	Perspiration; perspirometer method.
5682	Perspiration; tube method.
<u>Mildew Resistance</u>	
5762	Mildew resistance; soil burial method.
<u>Deterioration Test</u>	
5850	Aging; accelerated oven method.

NATURAL FIBERS OTHER THAN COTTON AND WOOL

NOMENCLATURE	Weight Oz/Sq Yd	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Dynamic Absorption Max.	Hydro- static Pressure Low Range Min.	Water Permea- bility Max.	Point Value Max.
	Min Max				(5050) W/F	(5100) W/F	(5450) W/F	(5550) W/F	(5500)		(5516)	

Cloth, Thread, and
Tape; Asbestos
SS-C-466e
(See also under
Narrow Fabrics)

Form I- Cloth
Grade U.G.- 80%
asbestos, blue
stripe

	(+7%)			(+1)								
Style 1- plain weave, reg. wgt.	2.25 lb.	Plain	(1)	18	9	90	40					
Style 2- plain weave, lt. wgt.	1.40 lb.	Plain	(2)	19	10	80	40					
Style 3- plain weave, special wgt. No. 1 construction.	0.75 lb.	Plain	(1)	21	17	40	30					
Style 4- plain weave, special wgt. No. 2 construction.	1.05 lb.	Plain	(1)	20	15	65	40					
Style 5- plain weave, combination asbestos & glass, (asbestos yarn & glass filament yarn plied together)	1.10 lb.	Plain	(1)	13	9	90	70					
Style 6- plain weave, combination asbestos & glass, (asbestos yarn & glass filament yarn plied together).	1.40 lb.	Plain	(1)	18	9	90	40					
No. 4 construction.												

(Continued)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Tearing Strength, etc.)	NOTES (Not Specification Requirements)
SS-C-466e Form I Style 1 Style 2 Style 3 Style 4 Style 5 Style 6 (Continued)	Cloth may be finished to provide qualities and characteristics such as lint free, brushed, and filled, calendered, napped, dry-woven, or wet woven, providing tensile and construction qualities are main- tained as specified.		Asbestos cloth, thread, and tape shall be made of good- quality chrysotile asbestos and organic fiber. Hygroscopic moisture shall not exceed 5% (4.4.1.1). Cloth shall be woven with single or plied yarns. Grade U.G. cloth shall contain no less than 80% as- bestos. A blue marker thread shall be woven into each sel- vage.	Intended Use- Form I, Grade U.G.: For use as jacketing material over insulation where the temperature of the insulated surface is more than 125°F (52°C), except that it is not to be used on fittings and flanges, nor where it will be in contact with heated metal.

NATURAL FIBERS OTHER THAN COTTON AND WOOL

NOMENCLATURE	Weight Oz/Sq Yd	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Dynamic Absorption Max.	Hydro- static Pressure Low Range Min.	Water Permea- bility Max.	Point Value Max.
	Min/Max				(5050)	(5100)	(5450)	(5550)	(5500)		(5516)	
Cloth, Thread, and Rope: Asbestos SS-C-466e (Cont'd)				W/F	W/F	W/F		W/F				
Grade AA- 90% asbestos, red strips					(+1)							
Style 1- plain weave, reg. wgt.	(+7%) 2.25 lb.	Plain	(1)		18	9	100	40				
Grade AAA- 99% asbestos, green strips												
Style 1- plain weave, reg. wgt.	2.25 lb.	Plain	(1)		18	9	125	50				
Style 2- plain weave, lt. wgt.	1.40 lb.	Plain	(1)		19	10	80	40				
Grade AAA-M- 95% asbestos, plain weave, wire insertion, no strips												
	per sq. yd.						Diameter (+.001")	Wire Composition		No. of strands		
Style 7- nominal	2.60 lb.	Plain	(1)		18	9	.006	Soft annealed nickel		1		
Style 8- "	2.75 lb.	Plain	(1)		18	9	.008	Nickel-copper alloy (58% nickel)		1		
Style 9- "	3.50 lb.	Plain	(1)		18	9	.008	Nickel-copper alloy (58% nickel)		2		

(Continued)

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Tearing Strength, etc.)	NOTES (Not Specification Requirements)
SS-C-466e Grade AA Style 1 Grade AAA Style 1 Style 2 Grade AAA-M Style 7 Style 8 Style 9 (Continued)	For additional information see p. 287.		Grade AA- cloth shall contain not less than 90% asbestos. A red marker thread shall be woven in each selvage. Grade AAA- cloth shall contain not less than 95% asbestos. A green marker thread shall be woven in each selvage. Grade AAA-M- cloth shall contain not less than 95% asbestos exclusive of wire insertion. It shall be plain woven.	Intended Use- Form I, Grade AA cloth is intended for use as the outside surface on removable & replaceable covers for flanges & fittings where the temperature of the insulated surface does not exceed 500°F (260°C), or for the wrapping of engine exhaust pipes where the temperature of metal in contact does not exceed 500°F. Form I, Grade AAA cloth is intended for use as the outside surface on removable & replaceable covers for flanges & fittings where the temperature of the insulated surface is more than 500°F, or for the wrapping of exhaust pipes where the temperature of the metal in contact exceeds 500°F. Form I, Grade AAA-M cloth is intended for use as the inside surface on removable & replaceable flanges & fittings, or for the wrapping of engine exhaust pipes where the temperature of metal in contact shall be over 500° but not exceeding 1000°F.

NATURAL FIBERS OTHER THAN COTTON AND WOOL

NOMENCLATURE	Weight Oz/Sq Yd	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min. (5050)	Breaking Strength Lb. Min. (5100)	Air Permea- bility (5450)	Shrink- age Max. (5550)	Dynamic Absorption Max. (5500)	Hydra- static Pressure Low Range Min.	Water Permea- bility Max. (5516)	Point Value Max.
Cloth, Thread, and Tape; Asbestos SS-C-466e (Cont'd)	Min Max			W F	W F	W F		W F				
Form II- Thread, sewing, reinforced with wire						(4.4.2.1)						
Form III- Thread, sewing, without wire	450 yds/ lb. min.			2 2 max.		4						
Form IV- Tape (See Narrow Fabrics)												

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Tearing Strength, etc.)	NOTES (Not Specification Requirements)
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SS-C-466e (Cont'd) For additional information see p. 287.
Form II
Form III
Form IV

Form II, thread, sewing, reinforced with wire- strands shall be composed of 3 nickel-copper wires, each of which shall have asbestos yarn spun around it, twisted together to definitely interlock the asbestos and wire. Each yarn shall be 10-cut and shall contain not less than 58% nickel and shall be 0.008 +0.001 in. in diameter.
Form III, thread, sewing, without wire- thread shall be made from yarn not heavier than 10-cut, 2-ply, and shall contain not less than 75% asbestos. One pound of thread shall provide not less than 450 yards.

NATURAL FIBERS OTHER THAN COTTON AND WOOL

NOMENCLATURE	Weight Oz/Sq Yd	Weave	Width Inch	Yarn Ply	Yarns Per Inch Min.	Breaking Strength Lb. Min.	Air Permea- bility	Shrink- age Max.	Dynamic Absorption Max.	Hydro- static Pressure Low Range Min.	Water Permea- bility Max.	Point Value Max.
					(5050)	(5100)	(5450)	(5550)	(5500)		(5516)	
Cloth, Burlap, Jute (Or Kenaf)	Min Max			W F	W F	W F		W F				
CCC-C-467b	(+5% tol.)											
Class 1- 7.5 oz.	6.7	Plain,	40		8-11	8-11						
Class 2- 8.0 oz.	7.2	modified	min.		9-12	8-11						
Class 3-10.0 oz.	9.0	plain, or	inc.		11-13	10-12						
Class 4-12.0 oz.	10.8	3-leaf twill.	of selvage		11-13	11-13						

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS (Such as Thickness, Tearing Strength, etc.)	NOTES (Not Specification Requirements)
CCC-C-467b Class 1 Class 2 Class 3 Class 4			Cloth shall be made of jute or kenaf, or any combination thereof, at the option of the supplier. Selvages shall be firm and straight, and may contain cotton yarn.	Intended Use- Burlap cloth is intended for use in equipment, covering of baled material, camouflage materials, sand bags, and overwrapping of textile products when packed for delivery. Jute is defined as the best fiber obtained from various species of Corchorus. Kenaf is defined as the best fiber obtained from Hibiscus Cannabinus.

GENERAL NOTES

NON-WOVEN TEXTILE MATERIALS

The following parenthetical numbers are utilized throughout this section of the text as referenced notes. Upon observing these numbers, refer to this page for further information dealing with specific portions of the item.

- | | |
|---|--|
| (1) As specified. | (6) Pre-award sample and laboratory report. |
| (2) Preproduction sample. | (7) Mid sample and laboratory report. |
| (3) Colormatching. | (8) See specification for weave diagram and/or instructions. |
| (4) See specification for instructions on construction. | (9) Sulfur dyed. |
| (5) Nonfibrous and extractable matter. | |

The specific test methods referenced in this section of the text are listed with their titles at the end of the section.

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption
<u>Rag, Wiping, Cotton</u> DD-R-30b		Min	Max	L W				
Class 1- Unused fabrics.	Woven or knitted cotton fabrics. Class 1 shall consist of clean mill ends, mill remnants, or both. Rags shall be soft and absorbent, free from dust and abrasive material. Class 2 shall consist of fabrics reclaimed principally from household articles, none of which has been used for wiping rag purposes, and shall be soft and absorbent. Both Classes: Heavily napped fabrics, mesh fabrics, fabrics woven with hard twisted yarn, & starched or stiffened fabrics are not acceptable. U.S. Flags or Flags of other Nations, or remnants thereof are strictly prohibited.	(a)						
Grade A- White only		2.0	6.0	See spec. for requirements of area.				Water & oil shall be absorbed into cloths within 30 sec. (4.3.3).
Grade B		2.0	12.0					
Class 2- Reclaimed fabrics.								
Grade A- White only		2.0	6.0	"				
Grade B		2.0	12.0					

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
DD-R-30b Class 1 Grade A Grade B Class 2 Grade A Grade B			(a) At least 35% of the weight in each inspection lot of Grade B fabrics shall consist of wiping rags weighing between 2.0-5.0 oz/sq yd. Class 2 wiping rags shall be thoroughly washed, rinsed, and sterilized. This processing shall be done within the United States, its possessions, or Puerto Rico. All Classes and Grades of wiping rags shall have a moisture content of no greater than 10% (4.3.3.2).	Intended Use- In wiping oil and grease from machinery and for miscellaneous cleaning.

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Spitting Resistance	Thickness Inch	Water Absorption	Bursting Strength Min. Lb. (dry)
Cloth, Cleaning, Nonwoven Fabric CCC-C-46a (6L) And. 1		Min Max		L W					
				Weaker Direction	Comb. Total Ave., Both	Tear Strength min. (dry)	Stiffness max. In. Lb. Stiffer Direction Weaker Direction		
Type I- Untreated	Fibers & yarns shall be								(water)
Class 1- Lt. duty	of vegetable, animal	1.26	2.40	(1)	-	-	-	-	350% min. 12
Class 2- Med. duty	or synthetic origin, &	1.26	1.94	(1)	-	-	-	-	by weight 17
Class 4- Extra heavy duty	the fibers or combina- tion of fibers & yarns shall be in a planar assembly held together by a binder. When yarns are used, they shall be no more than 2" long. Binder shall be odorless & stable. Use of water- soluble plasticizer materials in Type I cloth shall not exceed 5% by weight.	3.50	4.00	(1)	14 22 (dry) 7 15 (wet)	0.4	0.012	0.0085	2 sec. max. (oil) 275% min. by weight Classes 1 & 2: 30 sec max. Classes 4 & 5: 8 sec.
Class 5- Med. extra hvy. duty		1.75	2.25	(1)	7 15 (dry) 3 6 (wet)	0.4	0.006	0.002	
Type II- Oil treated Class 5- Med. extra hvy. duty		2.00	2.76	(1)	3 6 (dry)	0.4	0.003	0.001	-
									Elongation 40% min (dry) weaker direction

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
CCC-C-46a Type I Class 1 Class 2 Class 4 Class 5 Type II Class 5	Oil used for treating Type II, Class 5 cloth shall be a standard grade mineral-oil emulsion with an unobjectionable odor, having a non-tendency to sour or mildew after impregnation of the cloth. It shall be of a viscosity suitable for impregnating nonwoven cloth for polishing and cleaning purposes without harmful effects to the surfaces to which it is applied. Oil shall be nontoxic. Shall constitute 12-17% by weight. The bonded finished of Type I cloth shall be free from blocking (4.4), and shall not become brittle. Type II shall have a soft hand.	Color- Shall be unbleached, white or a dyed white or a dyed color as specified. When the following colors are specified, they shall approximate the following color numbers of Fed. Std. No. 595. White- 37886; Tan- 23594; Yellow- 25793; Red- 21150; Unbleached- 37855. Colorfastness- When a dyed color is specified, cloth shall show "fair" fastness (5651-5630).	(2) Cloth shall be in the form of either cut size-sheets or full-width rolls or bolts as specified. Finished cloth shall be essentially lintless when used in wet or dry condition. Class 1 cloth shall not be seriously affected by carbon tetrachloride, turpentine, and stoddard solvent (5508). Type I, Classes 4 & 5 shall not lose more than 2% in weight by extraction when immersed in a hydrocarbon fuel, and the cloths shall show no tackiness, appreciable stiffness, surface gelling, or other tactually observable effect (4.4.2). Cloths shall be free from objectionable odor. Type II, Class 5: The max. confidence limit (arithmetic mean), dirt pick-up efficiency shall average not less than 21% based on weight of cloth before soiling (4.4.3). Type I, Class 4: When specified by procurement officer, cloth shall be prewashed to remove any existing impregnated detergent, and the procurement officer shall state the percentage of allowable residual soluble materials acceptable.	Intended Use- Type I, Class 1: for dusting, wiping, washing, and polishing. Type I, Class 2: for survey markers. Type I, Classes 4 and 5: for use in industrial type wiping operations. Type II, Class 5: for dusting and floor wiping operations. Cloths are not intended for use where high-abrasive qualities of cloth are required. Type I, Class 5 cloth may be used to produce Class 5, Type II cloth.

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption	
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<u>Pad, Ironing Board,</u> <u>Cotton</u> DDD-P-55a	Cotton. Card sliver shall be used to form the base material.	Min Max		L W					
		16.0	-	15½ (head) 4½ (taper)	(4104) 200 (ave.) 190 (ind. test)				

Padding, Cotton, Stitched Roving CCC-P-86c

Type I- 1/4 in. thick (com.)	Cotton	1b. 1.0	-	(min.) 54 or 90					
Type II- 5/8 in. thick (com.)	Cotton	1b. 1b. 2.0 2.5		74					

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
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DDD-P-55a

(4)
Strands per inch, card sliver:
5 min. Rows per inch, warpwise
stitching: 3 min.

CCC-P-86c
Type I
Type II

(4)

Intended Use- Primarily
for use on flatwork ironers
and pressing machines.

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption	
Waste, Matted, Yarns, (Cotton, Colored) DD-W-101b		Min Max		L W					

Cotton yarns or a mixture of cotton and rayon yarns. 20%+5% of the yarns shall be min. 20 in. long, & not more than 5% shall be less than 3 in. 40% max. shall be fine undyed soft spun yarns. 20%+2% shall be slasher yarns. 40% max. shall be fine dyed soft spun yarns. 20%+2% of nonbright spun-rayon yarns may be used in lieu of same quantity of cotton by weight. Yarns shall be free from excessive lint and hard-twisted string, shredded rag, premachined stock, soiled or oily stock, crepe yarn, lustrous rayon, yarns of more than 3-ply, dark colored yarns, fly sweepings, and dirt or other foreign matter.

Water & oil shall be absorbed within 30 sec.

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
DD-W-101b	(5) Waste shall be machined twice to produce a uniformly mixed product with regard to color and length of yarns. White and colored waste shall be properly floor mixed by spreading each bale of stock material on a laying pile in successive layers, so that a portion cut from the edge of the pile to put through the machines will have its proper proportion of every bale of stock material used in the manufacture of the waste. All spools, needles, metal clips, etc. shall be removed. Tare content: 6%. Moisture content: 6.5%.			Intended Use- In wiping and and packing in journals.

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch (nominal)	Water Absorption
<u>Felt Sheet (Hair) and Felt Roll (Hair)</u> C-F-202c		Min Max		L W				
Type I- Flaten or needle loom pro- cess, without backing.	Washed cattle hair. Felt shall contain no less than 95% cattle hair, except for the cloth reinforcement material for Types II, III, and V.	16 22 23 31 29 41 50 62 70 88 90 120 112 148 135 177 156 204 180 234					1/8 3/16 1/4 1/2 3/4 1 1-1/4 1-1/2 1-3/4 2	
Type II- Punched or needle loom processes, with tobacco cloth center reinforce- ment.		16 22 23 31 29 41 50 62 70 88 90 120 112 148 135 177 156 204 180 234					1/8 3/16 1/4 1/2 3/4 1 1-1/4 1-1/2 1-3/4 2	
Type III- Punched or needle loom processes, with tobacco cloth center reinforcement (break- ing strength require- ment)		18 24 25 33 31 42 52 64 72 90 92 124 114 150 137 179 158 206 182 236	30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30 30				1/8 3/16 1/4 1/2 3/4 1 1-1/4 1-1/2 1-3/4 2	
(Continued)								

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
C-F-202c Type I Type II Type III (Continued)	When specified, felt shall be mildew resistant treated in accordance with MIL-T-2312. Requirements for organic acidity, alkalinity, and mineral acidity shall not apply to mildew resistant treated.	Color- Unless otherwise specified, felt shall be natural. The color result- ing from the cattle hair used shall be acceptable.	(2-4). When specified, Types I, II, III, and V felt shall show an organic acidity of not greater than 0.2% (4.4.2). When spec- ified, Types I, II, III, and V felt shall have a pH of 7.0 + 1.0 (2811). Type IV: Shall show no sign of cracking. This requirement shall not apply to 1/8 thick (4.4.3). Class 1 felt shall show an organic acidity not exceeding 0.2%. Class 2 show a pH of 7.0 + 1.0.	Intended Use- Type I: For insulation where the temp- erature will not be higher than 120°F. For cushion- ing, packing, padding, & crating where breaking strength is not important. Type II: For use as a cushion material in pack- ing, padding, and crating, where a moderate breaking strength is required. Type III: For use as a cushion material for packing and crating where a high breaking strength is required, such as cush- ioning against shock. It may also be used for insulating purposes. Type IV: For packing, padding, and crating where a firm and semi-hard material is required. Other appli- cations are: Polishing, resistance to impact, bumpers & vibration cushioning. Type V: For use as a soft, springy cushion under carpets and rugs.

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption	
<u>Felt Sheet (Hair) and</u> <u>Felt Roll (Hair)</u> C-F-202c (Cont'd)		Min	Max	L W			(nominal)		
Type IV- Felted & fullled process		27	35			-	1/8		
Class 1- Untreated		40	52			4 lb.	3/16		
Class 2- Neutralized		54	70			4 lb.	1/4		
		67	87			4 lb.	5/16		
		81	125			4 lb.	3/8		
		108	140			4 lb.	1/2		
		162	210			4 lb.	3/4		
		216	280			4 lb.	1		
Type V- Felted process, burlap core		29	35				3/16		
		36	44				1/4		
		43	53				3/8		
		57	71				1/2		

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
C-F-202c (Cont'd) Type IV Class 1 Class 2 Type V	For additional information see p. 296.			

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch (Nominal)	Water Absorption	Wool Fiber Con- tent	Ash Con- tent Max.
Felt, Sheet, Wool, Pressed C-F-206b, Amd. 1		Min Max (lbs.)	(min.)	L W	(psi)	(lb/2")				
Type I- Mechanical- roll felts	Fleece, pulled wool, wool noil, reprocessed wool, reused wool or a combination thereof.									
18R		2.15 2.35 3.23 3.53 4.30 4.70 5.38 5.88 6.45 7.05 8.60 9.40	60 60 60 60 60 60		600 600 600 500 600 600	35 35 35 35 35 35	1/8 3/16 1/4 5/16 3/8 1/2		95% 95% 95% 95% 95% 95%	1 1/4% 1 1/4% 1 1/4% 1 1/4% 1 1/4% 1 1/4%
16R		0.712 0.788	60 or 72		500	-	3/64		95%	1 1/4%
1X		0.937 1.013 1.162 1.238 1.387 1.463	60 or 72 60 or 72 60 or 72		500 500 500		1/16 5/64 3/32		95% 95% 95%	1 1/4% 1 1/4% 1 1/4%
16R		0.712 0.788	60 or 72		300		3/64		92%	2 1/4%
3X		0.937 1.013 1.162 1.238 1.387 1.463	60 or 72 60 or 72 60 or 72		300 300 300		1/16 5/64 3/32		92% 92% 92%	2 1/4% 2 1/4% 2 1/4%
(Continued)										

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
C-F-206b Type I 18R 16R 1X 16R 3X (Continued)	Ammunition felt: (5) Organic acidity of extract calculated as acetic acid shall not exceed 0.12%. When spec- ified, the felt shall be given a mildew resistant treatment in accordance with MIL-T-2312. When specified, felt shall be given a properly applied sili- cofluoride moth-repellent treatment in order that the felt will leave 0.5 - 0.85% by weight of silicofluoride as a nonsubliming silicofluo- ride. pH: 7.0 ± 1.0.	Color- 18R- White, 16R 1X- White, 3X- Gray.	(6)	Intended Use (suggested)- 18R: For use where a hard, high grade felt possessing long wearing properties is desired, 16R1X: For ball & roller bearing oil retainer washers and small dust ex- cluding washers. Also for mechanical purposes where an accurate, thin, smooth, high-grade felt is required. 16R3X: For the same purposes as 16R1X, but in installations where tolerances & length of life are not as important. Also for thin cut parts such as gaskets and liners.

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption	Wool Fiber Con- tent	Ash Con- tent Max.
Felt, Sheet, Wool, Pressed C-V-206b (Cont'd)		Min Max (lbs.)	(min.)	L W	(psi)	(lb/2")	(Nominal)			
Type I- Mechanical roll felts										
16R1		0.95 1.05	60		500	33	1/16	95%	1%	
		1.90 2.10	60		500	33	1/8	95%	1%	
		2.85 3.15	60		500	33	3/16	95%	1%	
		3.80 4.20	60		500	33	1/4	95%	1%	
		4.75 5.25	60		500	33	5/16	95%	1%	
		5.70 6.30	60		500	33	3/8	95%	1%	
		7.60 8.40	60		500	33	1/2	95%	1%	
		9.50 10.50	60		500	33	5/8	95%	1%	
		11.40 12.60	60		500	33	3/4	95%	1%	
		13.30 14.70	60		500	33	7/8	95%	1%	
		15.20 16.80	60		500	33	1	95%	1%	
16R2 (Continued)		0.95 1.05	60		500	28	1/16	95%	2%	
		1.90 2.10	60		500	28	1/8	95%	2%	
		2.85 3.15	60		500	28	3/16	95%	2%	
		3.80 4.20	60		500	28	1/4	95%	2%	
		4.75 5.25	60		500	28	5/16	95%	2%	
		5.70 6.30	60		500	28	3/8	95%	2%	
		7.60 8.40	60		500	28	1/2	95%	2%	
		9.50 10.50	60		500	28	5/8	95%	2%	
		11.40 12.60	60		500	28	3/4	95%	2%	
		13.30 14.70	60		500	28	7/8	95%	2%	
		15.20 16.80	60		500	28	1	95%	2%	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
C-V-206b (Cont'd) Type I 16R1 16R2 (Continued)		Color- 16R1- White. 16R2- Any, except gray or black.	(6)	Intended Use (suggested)- 16R1: For oil retention in installations where the felt is not compressed, for feed- ing low viscosity or light oil, and where unusual stre- ngth and hardness are required. Washer; bushings; wicks; ink rolls and pads; door bumpers; polishing blocks; wheels & pads; grommets; window channels; resilient mount- ings, anti-vibration and dampening pads; and parts where wear & resistance to abrasion are required; are typical uses. 16R2: For vi- bration mountings, oil and grease shields, and the same general purposes as 16R1, where a felt of slightly lower quality is satisfactory.

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption	Wool Fiber Con- tent	Ash Con- tent Max.
Felt, Sheet, Wool, Frosted C-F-206b (Cont'd)		Min	Max	L W						
Type I- Mechanical roll felts		(lbs.)	(in.)		(psi)	(lb/2")	(in. final)			
16R3		1.90	2.10	60	400	22	1/8	90%	2 1/2%	
		2.85	3.15	60	400	22	3/16	90%	2 1/2%	
		3.80	4.19	60	400	22	1/4	90%	2 1/2%	
		4.75	5.24	60	400	22	5/16	90%	2 1/2%	
		5.70	6.29	60	400	22	3/8	90%	2 1/2%	
		6.60	8.39	60	400	22	1/2	90%	2 1/2%	
		9.50	10.49	60	400	22	5/8	90%	2 1/2%	
		11.4	12.99	60	400	22	3/4	90%	2 1/2%	
		13.30	14.69	60	400	22	7/8	90%	2 1/2%	
		15.20	16.79	60	400	22	1	90%	2 1/2%	
12R3X		0.712	0.788	60 or 72	200	-	1/16	75%	3%	
		1.087	1.163	60 or 72	200	-	3/32	75%	3%	
12R1 (Continued)		1.45	1.61	60 or 72	400	18	1/8	95%	2%	
		2.17	2.41	60 or 72	400	18	3/16	95%	2%	
		2.90	3.22	60 or 72	400	18	1/4	95%	2%	
		3.62	4.02	60 or 72	400	18	5/16	95%	2%	
		4.35	4.83	60 or 72	400	18	3/8	95%	2%	
		5.80	6.44	60 or 72	400	18	1/2	95%	2%	
		7.25	8.05	60 or 72	400	18	5/8	95%	2%	
		8.70	9.66	60 or 72	400	18	3/4	95%	2%	
		10.15	11.27	60 or 72	400	18	7/8	95%	2%	
		11.60	12.88	60 or 72	400	18	1	95%	2%	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
C-F-206b (Cont'd) Type I 16R3 12R3X 12R1 (Continued)		Color- 16R3- Gray. 12R3X- Gray or Black. 12R1- White.	(6) (a) Felt for ammunition of 1/16 and 3/32 in. thickness shall have a min. tensile strength of 125 psi.	Intended Use (suggested)- 16R3: For ammunition compon- ents. For aircraft applica- tions; between rocker arm covers of engines, ring cowlings, radio cushion strips retaining and feed- ing oil under difficult conditions, washings & bushings. 12R3X: For anti- squeak strips and for lining when cemented to fiber board or metal panels. 12R1: For dust shields, wipers, grease retainer wash- ers, vicks, vibration mount- ings, and uses where a resilient felt is required.

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption	Wool Fiber Con- tent	Ash Con- tent
<u>Felt, Sheet, Wool, Pressed (Cont'd)</u> C-F-206b		Min Max (lbs.)	L W (min.)		(psi)	(lb/2")	(nominal)			
Type I- Mechanical- roll felts										
12R2		1.45	1.61	60		275	16	1/8	92%	2%
		2.17	2.41	60		275	16	3/16	92%	2%
		2.90	3.22	60		275	16	1/4	92%	2%
		3.62	4.02	60		275	16	5/16	92%	2%
		4.35	4.83	60		275	16	3/8	92%	2%
		5.80	6.44	60		275	16	1/2	92%	2%
		7.25	8.05	60		275	16	5/8	92%	2%
		8.70	9.66	60		275	16	3/4	92%	2%
		10.15	11.27	60		275	16	7/8	92%	2%
		11.60	12.88	60		275	16	1	92%	2%
12R3 (Continued)		1.45	1.61	72		250	12	1/8	80%	3%
		2.17	2.41	72		250	12	3/16	80%	3%
		2.90	3.22	72		250	12	1/4	80%	3%
		3.62	4.02	72		250	12	5/16	80%	3%
		4.35	4.83	72		250	12	3/8	80%	3%
		5.80	6.44	72		250	12	1/2	80%	3%
		7.25	8.05	72		250	12	5/8	80%	3%
		8.70	9.66	72		250	12	3/4	80%	3%
		10.15	11.27	72		250	12	7/8	80%	3%
		11.60	12.88	72		250	12	1	80%	3%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
C-F-206b (Cont'd) Type I 12R2 12R3 (Continued)		Color- 12R2- Gray. 12R3- Gray.	(6)	Intended Use (suggested)- 12R2 and 12R3: For dust shields, grease retainer washers, wicks, vibration mountings, and uses where a resilient felt is required.

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/3q Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption	Wool Fiber Con- tent	Ash Con- tent Max.
Felt, Short, Wool, Pressed (Cont'd) C-F-206b		Min Max (lbs.)	(min.)	L W	(psi)	(lbs/2")	(nominal)			
Type I- Mechanical- wool felts										
9R1		0.60 0.70	72		225	8	1/16		95%	2 1/2%
		0.98 1.14					1/8			
9R2		1.47 1.71	72		200	6	3/16		92%	3%
		1.96 2.28					1/4			
9R3		2.45 2.85	72		100	3	5/16		85%	3 1/2%
		2.94 3.42					3/8			
9R4		3.92 4.56	72		75	2	1/2		75%	3 1/2%
		4.90 5.70					5/8			
9R5		5.88 6.84	72		75	2	3/4		55%	4%
		6.86 7.98					7/8			
		7.84 9.12					1			
		15.68 18.24					2			
8R5		0.81 0.99	72 or 36				1/8		45%	5%
		1.62 1.98	72 or 36				1/4		45%	5%
(Continued)		2.43 2.97	72 or 36				3/8		45%	5%
		3.24 3.96	72 or 36				1/2		45%	5%
		4.86 5.94	72 or 36				3/4		45%	5%
		6.48 7.92	72 or 36				1		45%	5%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
C-F-206b (Cont'd) Type I 9R1 9R2 9R3 9R4 9R5 8R5 (Continued)	9R1-9R5: The felt shall be mildew treated according to MIL-T-2312, except that com- plete penetration of the treatment shall not be re- quired, and that the con- tractors shall certify the amount and kind of inhibitor which was applied.	Color- 9R1- White. 9R2- Gray. 9R3- Gray. 9R4- Gray. 9R5- Gray. 8R5- Gray.	(6)	Intended Use (suggested)- 9R1, 9R2, and 9R3: for grease and oil retention where the felt is confined and com- pressed in assembly. Also recommended for dust shields under less severe operating conditions, where 12R1, 12R2, and 12R3 are not required. 9R4 and 9R5: for sound deadening, chassis strips, spacers, dust shields, pedal pads, dash liners, and for mechanical purposes where abrasion and wear are not important fac- tors. 8R5: for packing and padding when held in place between other materials. This grade should not be used for mechanical purposes.

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance (lb/2")	Thickness Inch (nominal)	Water Absorption	Wool Fiber Con- tent	Ash Con- tent Max.
Felt, Sheet, Wool, Pressed (Cont'd) C-F-206b		Min Max (lbs.)		L W	(psi)		(Water Swell Max.)	Thickness (min)		
Type II- Sheet felt	Flasce, pulled wool, wool ncil, reprocessed wool, reused wool, or a combination thereof.	2.80 3.20 4.20 4.80 5.60 6.40			400	18	1/4 3/8 1/2	20%	95%	1 1/2%
12-S	Grades of wool; Class	7.05 7.95 8.50 9.50			300	16	5/8 3/4 7/8	25%	95%	1 1/2%
1	1: Fine Spanish or its equivalent, com- posed of white wool,	9.95 11.05 11.40 12.60			300	12	1 1-1/4 1-1/2	30%	95%	2%
2	U.S. Standard 62's or finer; scoured, car- bonized, dusted, neu- tralized, depitched, and depainted.	14.30 15.70 17.20 18.80 20.10 21.90 23.00 25.00 28.95 31.05 34.90 37.10			300	10	1-3/4 2 2-1/2 3	30%	95%	2 1/2%
3										
4										
16-S	Class 2: Spanish, or its equivalent, com- posed of white wools,	1.90 2.10 2.85 3.15 3.70 4.30			500	32	1/8 3/16 1/4	25%	95%	1 1/2%
1	U.S. Standard 58's or finer; scoured, car- bonized, dusted, and neutralized.	5.60 6.40 7.50 8.50 9.40 10.60 11.30 12.70			400	28	3/8 1/2 5/8 3/4 7/8	30%	95%	1 1/2%
2					400	22	1-1/4 1-1/2 1-3/4 2 2-1/2 3	35%	95%	2%
3					400					
4					300	20				
(Continued)	Class 3: Mexican or its equivalent, com- posed of wool, 75% U.S. Standard 56's or finer, 25% U.S. Stan- dard 48's or finer; scoured and dusted.	13.25 14.75 15.20 16.80 19.10 20.90 23.00 25.00 26.90 29.10 38.80 33.20 38.75 41.25 46.70 49.30								

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
C-F-206b (Cont'd) Type II 12-S 1 2 3 4 16-S 1 2 3 4 (Continued)		Color- 12-S 1- White, 2- White, 3- White, 4- White. 16-S 1- White, 2- White, 3- White, 4- White. Other colors are manufactured on order.	(6)	Intended Use (suggested)- 16S: For use as medium den- sity polishing wheels and buffs for precious metal and plastic polishing, rough optical polishing, metal viping, drum beaters; also drilled vicks, bearing seals, shoe rolls (shank), fluid transfer rolls, oil and fluid vicks, grease and oil retaining washers, ink roll- ers, vibration and shock mountings, bumpers, plugs, glass channels. 12-S: For use as soft density polish- ing wheels and buffs for polishing plastic, polishing and viping brass; also for piano wedge, surgical pads, punched vicks, dampeners, absorbent pads, oil and fluid retainers, fluid transfer rolls, bearing seals, washers, vicks, shin and spacer pads, shoe insoles, dust shields, anti-vibration pad.

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance (lb/2")	Thickness Inch (nominal)	Water Absorption (min)	Wool Fiber Con- tent	Ash Con- tent Max.
Felt, Sheet, Wool Frosted (Cont'd) C-F-206b		Min Max (lbs.)	L W		(psi)		(Water Thickness Swell Max.)			
Type II- Sheet felt 20-S	Class 4; Coarse Mexi- can, or its equiva- lent, composed of wool, 60% U.S. Standard 50's or finer, and 40% U.S. Standard 44's or finer.	2.20	2.80		600	44	1/8	30%	95%	1 1/2%
1		3.40	4.10				3/16			
2		4.60	5.40		500	40	1/4	40%	95%	1 1/2%
3		7.00	8.00		400	36	3/8	50%	95%	2%
4		9.40	10.60				1/2			
		11.80	13.20				5/8			
		14.20	15.80		300	32	3/4	50%	95%	2 1/2%
		16.60	18.40				7/8			
		19.00	21.00				1			
		23.90	26.10				1-1/4			
		28.80	31.20				1-1/2			
		33.70	36.30				1-3/4			
		38.60	41.40				2			
		48.55	51.45				2-1/2			
		58.50	60.50				3			
26-S		2.85	3.65		600	48	1/8	40%	95%	1 1/2%
1		4.40	5.40				3/16			
2		5.90	7.10		500	46	1/4	50%	95%	1 1/2%
3		8.95	10.55		400	40	3/8	60%	95%	2%
4		12.00	14.00		400	30	1/2	60%	95%	2 1/2%
(Continued)		15.15	17.35				5/8			
		18.30	20.70				3/4			
		21.45	24.05				7/8			
		24.60	27.40				1			
		31.00	34.00				1-1/4			
		37.40	40.60				1-1/2			
		43.80	47.20				1-3/4			
		50.20	53.80				2			

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
C-F-206b (Cont'd) Type II 20-S 1 2 3 4 26-S 1 2 3 4 (Continued)		Color- 20-S 1-White, 2- White, 3- White, 4- White. 26-S 1- White, 2- White, 3- White, 4- White. Other colors manufactured on order.	(6)	Intended Use (suggested)- 20-S: For use as medium-hard density polishing wheels and buffs for polishing lenses, mirrors, and glass, marble and granite; also for fluid transfer rolls, ink rolls, (securing), furniture rub- bing, rough metal polishing, metal wiping, drilled wicks, bearing seal washers, stamp pads, cushioning under sand paper. 26-S: For use as hard density polishing wheels for glass sheet, glassware, ophthalmic lense polishing, metal and metall- ographic polishing, wood polishing and furniture rubbing; also for block cutters, print rolls, cash carrier heads, points for making pens, casters, boot and shoe soles, artificial limbs.

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption	Wool Fiber Con- tent	Ash Con- tent Max.
Felt, Sheet, Wool, Pressed (Cont'd) C-F-206b		Min Max (lbs.)		L W				(Water Thickness Swell Max.)	(min)	
Type II- Sheet felt 32-S										
1		3.50 4.50			600	50	1/8	50%	95%	1 1/2%
2		5.25 6.75			500	48	3/16	60%	95%	1 1/2%
3		7.00 9.00			400	46	1/4	70%	95%	2%
4		10.90 13.10			400	40	3/8	70%	95%	2 1/2%
		14.80 17.20					1/2			
		18.70 21.30					5/8			
		22.60 25.40					3/4			
		26.50 29.50					7/8			
		30.40 33.60					1			
		38.30 41.70					1-1/8			
		46.20 49.80					1-1/2			
		54.10 57.90					1-3/4			
		62.00 66.00					2			
Type III- Roll-felt (apparel & decora- tive)		(oz)	(min)							Wool Grade Min.
11A2	Fleece, pulled wool, wool noil, reprocessed wool, reused wool or a combination thereof.	2.92	3.15	80	-		0.030		20%	48's
11A1		2.92	3.15	80	-		0.030		20%	48's
10A2		5.75	6.25	72	8		0.065		45%	48's
10A1 (Continued)		5.75	6.25	72	10		0.065		35%	48's

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
C-F-206b (Cont'd) Type II 32-S 1 2 3 4 Type III 11A2 11A1 10A2 10A1 (Continued)		Color- 32-S 1- White, 2- White, 3- White, 4- White. Other colors manufactured on order. 11A2- Gray. 11A1- White. 10A2- Gray. 10A1- White.	(6)	Intended Use (suggested)- 32-S: For use as extra-hard density polishing wheels and buffs in dental, jewelry, glass, and lapidary polish- ing; also hard washers, bumpers, and casters. 11A1 and 11A2: For use in fronts of coats to give required fullness and drape to outer fabrics. 10A1 and 10A2: For use as a lining material in outer wear gar- ments. Also as a lining on inside of shoe tongues, gen- erally white in color. Backing for household ob- jects to prevent scratching or marking furniture.

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption	Wool Fiber Con- tent	Wool Grade Min.
Felt, Sheet, Wool, Pressed (Cont'd) C-F-206b		Min Max		L W						
			(min)				(nominal)			
Type III- Roll-felt (apparel & decora- tive)										
9A2		6.75 7.25	72	10			0.075	45%	48's	
8A1		7.50 8.50	72	30			0.040	95%	58's	
7A1		9.25 10.75	60	45			0.040	95%	62's	
6A1		11.00 13.00	72	30			0.063	95%	62's	
5A1		(lbs.) 0.94 1.06 1.88 2.13 2.75 3.25 3.75 4.25	72 72 72 72				0.125 0.250 0.375 0.500	35% 35% 35% 35%	56's 56's 56's 56's	
4A1		0.50 0.56 1.00 1.12 2.875 3.125	36 72 72	20 45 175			0.063 0.125 0.375	50% 50% 50%	56's 56's 56's	
3A1		6.50 7.80	60x40 sheets				0.250	95%	56's	

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
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C-F-206b (Cont'd) Type III 9A2 8A1 7A1 6A1 5A1 4A1 3A1		Color- 9A2- Gray. 8A1- White & all colors. 7A1- White & all colors. 6A1- White & all colors. 5A1- White. 4A1- White. 3A1- Gray.	(6)	Intended Use (suggested)- 9A2: For use as lining mat- erial in outer wear garments. 8A1: For use as undercollar cloth and in face mask. 7A1: For use in garment decora- tion, and as background for embroidered designed hat bodies. 6A1: For use in gar- ment decoration and in mili- tary insignia; for face masks and auto flags. 5A1: For use as padding on ortho- pedic and truss appliances, and as athletic equipment padding. 4A1: Can be pulled down in layers to graduated thicknesses needed for medi- cal requirements. 3A1: For use in footwear, boots, etc., as lining or inserts.
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NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption	
		Min Max		L W					

Felt, Cattlehair or
Wool: Mildew Resistant,
and Moisture Resistant,
Treated
MIL-F-2312C, Amd. 1

Type I- Mildew
resistant

Felts shall be in accordance with those of the applicable felt spec. C-F-202
or C-F-206, as specified.

Type II- Moisture
resistant

Type III- Mildew
resistant and
moisture resistant

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
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MIL-F-2312C
Type I
Type II
Type III

(5)
Type I: Unless otherwise speci-
fied, felt shall be treated
with 2,2' methylenebis-(4-
chlorophenol) or salicylanilide.
Felt shall be well penetrated
by inhibiting agent, and there
shall be no noticeable cry-
stallization of the innibitor
on the felt surface. Finished
felt shall contain 1-2% of
2,2' methylenebis-(4-chloro-
phenol) or 0.5-1% of salicylan-
ilide. Type II: Unless other-
wise specified, felt shall be
treated with a wax or metallic-
salt wax compound or emulsion.
The treated felt shall show no
more than a 50% increase in
weight. Type III: Felt shall be
treated with a combination of
Type I and Type II treatments.
Types II and III treated felt
shall be allowed to reach
equilibrium prior to testing
for moisture resistance.

Color- When undyed felt
is specified, color of
the treated felt may
deviate from the nat-
ural state to that
degree imposed by the
color of the treating
agent used. Color of
dyed felt, prior to the
application of the finish
shall, unless specified
otherwise, match the
standard sample. When
dyed felt is specified,
the color of the treated
felt shall be that
resulting from the com-
bination of the base
color and the color
imparted by the finish-
ing compound.

(7)
A plus tolerance of 7% in
weight shall be allowed for
the Types I, II, and III
treated felt based on the
max. specified for the un-
treated felt.

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption	Wool Content Min.
<u>Yarn, Wool</u> NII-Y-16654C		Min	Max	L		W			
Type I- White or dyed	Fleece wool, pulled wool, or any combination thereof not lower in grade than 56's US Standard. Use of noils or laps is prohibited. Yarn shall be spun on worsted system from combed top on either the Bradford, French, or American system. Yarn shall be not finer than 8's 4-ply or coarser than 7's 4-ply. Twist shall be soft, with 5 (+5%) turns per inch in the single yarn & 2 (+5%) turns per inch in ply yarns.								95%
Type II- Natural									95%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
NII-Y-16654C		Color- Type I: (1)- Standard sample available (3). When white is specified, the yarn shall be bleached using hydrogen peroxide. Unless otherwise specified, white yarn shall not be treated with an optical bleach. In the event, however, than an optical bleach is specified, or permitted, it shall be so selected that the finished yarn shows no discoloration (4660). Type II: Shall be natural, undyed, unbleached, and not chemically processed. Colorfastness- Type I: Standard sample available (4660-4614).		Intended Use- Type I: For hand weaving and textile work in occupational therapy. Type II: For lubricating purposes.

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption	
Yarn, Cotton MIL-Y-16698B	Cotton. Yarn shall be carpet warp 8/4 ply \pm 3%, 6-7½ turns per in. of "8" twist in the ply.	Min Max		L W (4100) (Plied)					7

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
MIL-Y-16698B		Color- Shall be natural, bleached white, or color, as specified, and shall conform to the approved shade standard (3). When white is specified, the yarn shall be bleached using a peroxide type bleach. No tinting is permissible, and the use of optical bleaches is not permitted. When natural is specified, the yarn shall be a natural shade (9). Colorfastness- Standard sample available (4610).		Intended Use- For hand weaving in occupational therapy.

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption	Compress- ibility Min.
		Min Max			L W (4.4.7) (lbs/2")			Increase (max.)	(a)
		(lbs.)					(nominal)		
Felt, Sheet, Wool, Compound Impregnated, Chock Padding									
MIL-F-17057A (WEP)									
Carrier shall be wool		0.80	1.40	(1)	15		1/16	50%	50%
felt sheet conforming		1.45	2.20	(1)	30		1/8	50%	45%
to Type I, classifi-		2.25	2.95	(1)	45		3/16	50%	40%
cation 8R5 of C-F-206.		3.00	3.80	(1)	60		1/4	50%	35%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
MIL-F-17057A	Carrier shall be impregnated with a nondrying, nonoxidizing, water resistant, fungus resistant, anticorrosive, chromated compound with a min. softening point of 165°F (74°C). The fungus resistant agent (which may be impregnated separately) shall be copper-8-quinolinolate, applied in solubilized or emulsion form, to provide a concentration of 0.15±.05% copper in the dry treated materials. The impregnated felt sheet shall be coated on 1 side only with adhesive of the solvent-activated or of the pressure sensitive type. The adhesive shall provide the required bond without the use of auxiliary stapling. Impregnating compound to carrier weight ratio shall be not less than 0.40. Impregnated felt sheet shall show no evidence of extrusion of impregnating compound (4.4.15).		(a)After acc. aging test. Impregnated felt sheet shall not become hardened or impaired in a manner that would affect its serviceability after acc. aging (4.4.10). Corrosion protection: Impregnated felt sheet shall allow no corrosion of the metallic surfaces with which it is in contact (4.4.12). Impregnated felt sheet shall remain pliable without breaking or delaminating (4.4.13). Impregnated felt sheet shall show no visible evidence of fungus growth (4.4.14). Impregnated felt sheet shall have no detrimental effect on painted or lacquered surfaces (4.4.16). Adhesive bond between impregnated felt sheet and surface to which it is applied shall be greater than the cohesive strength of the impregnated felt sheet (4.4.17).	Intended Use- To be applied to chock surfaces in such a way that, interposed between the chock and the part to be supported, it affords padding and anticorrosive protection.

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption	
<u>Padding and Cover Set,</u> <u>Asbestos, Flatwork</u> <u>Ironer Roll</u> MIL-P-43219		Min Max		L W					
Padding	A felted, woven, or knitted material of min. of 75% asbestos. Balance shall be cotton, a synthetic, or a mixture of cotton and a synthetic.			Sufficient for 1 wrap around the roll.				Such a thickness that when binder, padding, & cover are installed on roll, caliper of entire assembly shall meet max. limits recommended by manufacturer of flatwork ironer.	
Binder	Uncoated asbestos. See above for fiber content.			71	123				
Liner	Woven asbestos cloth. See above for fiber content.			Sufficient to wrap once around the roll.					
Cover	Woven asbestos cloth. Min. 80% asbestos. Balance as above. Coated or impregnated with thermosetting resin. Shall not stain or mar appearance of articles processed through ironer.			190	152 (initial) 50% 50% (after heat aging)				

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
MIL-P-43219				Intended Use- For covering 2, 4, 6, and 8 roll flatwork ironers.

NON-WOVEN TEXTILE MATERIALS

NOMENCLATURE	Fiber	Weight Oz/Sq Yd	Width Inch	Breaking Strength Min. (5100)	Tensile Strength Min. (5100)	Splitting Resistance	Thickness Inch	Water Absorption	Compre- ssion Deform- Resil- ation ience
<u>Pad, Lithographic Plate Solution</u> MIL-P-43296 (OL)		Min Max			L W				

Cotton. Use of resins
or other binding mat-
erial is prohibited.

Ave:
23 gr.

Pad:
4x3-3/4
+1/4

30 sec.
max. for
complete
submersion
of the pad.

Felt, Sheet, Nylon,
Non-Woven (Needle
Punched)
MIL-F-43310

			(min)				(max.)
Type I	Nylon. Use of regen- erated or reprocessed nylon is prohibited. Melting point: 250°C. +6°C.	13.0 -	54	10	10	0.130	32% 70%
Type II		18.0 -	54	10	10	0.180	32% 70%
Type III		29.0 -	54	40	40	0.310	32% 70%

NOMENCLATURE	FINISH	SHADE AND COLORFASTNESS	OTHER REQUIREMENTS	NOTES (Not Specification Requirements)
MIL-P-43296	(5) When sample is tested for dextrin or starch, no blue or violet color shall develop (4.2.2). pH: 5.0 - 8.0 (2811).			Intended Use- As applicators or wipes for lithographic, off-set, and/or duplicating plates.
MIL-F-43310 Type I Type II Type III	The staple or felt shall be heat treated. Finished felt shall show a dimensional change of not more than 3% in either length or width (4.4.4).	Color- Shall be natural.	Finished felt shall lose not more than 50% of its breaking strength after acc. aging (4.4.3).	Intended Use- As padding for laundry presses.

REFERENCES

NON-WOVEN TEXTILE MATERIALS

Textile Test Methods - CCC-T-191b

<u>Method</u>	<u>Title</u>
	<u>Chemical</u>
2811	Acidity (pH), Potentiometric method.
	<u>Mechanical</u>
4100	Strength and elongation, breaking; yarn; single strand.
4104	Strength, breaking yarn and thread skein.
5100	Strength and elongation, breaking, of woven cloth, grab method.
	<u>Air Permeability and Water Resistance</u>
5508	Dry cleaning solvent resistance of water-resistant finish, tumble jar.
	<u>Colorfastness</u>
4610	Colorfastness to laundering; cotton and linen yarn, thread and cordage.
4614	Colorfastness to laundering; wool, silk, and rayon yarn, thread, and cordage; Launder-Ometer method.
4660	Colorfastness to light; yarn, thread, cordage; accelerated method (Fade-Ometer).
5630	Water, cold.
5651	Crocking of cloth.

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13. ABSTRACT

Specification requirements for military fabrics and related military textile materials such as felts and cordage are summarized in tables which give details for yarn, texture, finish and key performance parameters. Included are finishing, after-treatment specifications and test methods.

This report brings up-to-date and adds to the data contained in Textile Series Report No. 102 dated December 1957 (Revised).

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	Military requirements	4					
	Tables	0					

AD 658048

SUPPLEMENT
SUMMARY OF SPECIFICATION REQUIREMENTS
FOR MILITARY FABRICS

AD-658048, Technical Report 68-9-CM
TS-102 (Revised), dated July 1967

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Cloths, Polishing (For Electrical Contact Surfaces)	DDD-C-450a	Mar. 1966	25
Damask, Table Cotton (in bolts)	CCC-D-71	Aug. 1937	2
Handkerchief, Cotton	DDD-H-71d	Jan. 1959	2
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Scrim; Curtain	CCC-S-121	Aug. 1936	3
Sheet, Bed, Cotton, Amd. 2	DDD-S-281f	Jan. 1965	5
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Towel, Hand and Cloth, Cotton, Huck	DDD-T-531d	May 1963	29
Towel, Machinery Wiping	DDD-T-541c	Jul. 1965	30
Towel or Dishcloth (Crash, Cotton, and Cotton and Linen-Mixed); Cloth, Crash, Cotton	DDD-T-511c	Apr. 1966	29
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Blanket, Fire; Wool, With Case	MIL-B-59309	Aug. 1963	57
Bunting; Wool, Amd. 3	CCC-B-801	Apr. 1944	48
Cloth, Barathea, Wool	MIL-B-3727C	Aug. 1964	52
Cloth, Billiard	MIL-C-17566A	Dec. 1962	56
Cloth, Broadcloth, Wool, and Wool Synthetic	MIL-C-82252	Nov. 1964	58
Cloth, Elastique, Wool	MIL-C-3738D	Mar. 1965	52
Cloth, Flannel, Wool	MIL-C-16291D	Oct. 1965	56
Cloth, Flannel, Wool, Lining, 12-Ounce	MIL-C-3191D	Apr. 1966	51
Cloth, Flannel, Wool, 10 $\frac{1}{2}$ -Ounce Shrink Resistant	MIL-C-2184D	Nov. 1965	51
Cloth, Flannel, Wool, Undercollar Cloth	MIL-C-15062E	Jul. 1964	53
Cloth, Fleece, Wool, 21.5-Ounce	MIL-C-2049C	Jul. 1964	50
Cloth, Gabardine, Wool, Polyester and Wool, Amd. 2	MIL-C-10176F	Jun. 1965	53
Cloth, Melton, Wool, Amd. 1	MIL-C-16290F	Oct. 1965	55
Cloth, Serge, Wool; Wool and Nylon, Amd. 2	MIL-C-823E	Mar. 1965	48

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Cloth, Wool, Flannel; Green	MIL-C-15779B	Aug. 1961	54
Cloth, Wool, Gabardine, 12-Ounce	MIL-C-6403	Jan. 1951	53
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Cloth, Wool, Serge (12 $\frac{1}{2}$ -Ounce)	MIL-C-15506B	Oct. 1965	54
Cloth, Wool, Velour, 28-Ounce, Blue-85, Amd. 1	MIL-C-848	Jun. 1953	50
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Cloth, Acrylic (For Cartridge Bags), Amd. 1	MIL-C-12800	Feb. 1959	78
Cloth, Acrylic-Rayon (For Cartridge Bags)	MIL-C-40070	Jun. 1959	87
Cloth, Ballistic, Nylon	MIL-C-12369D	Sep. 1964	77
Cloth, Banner, Rayon	MIL-C-606D	May 1966	66
Cloth, Bunting, Acrylic	MIL-C-22775A	Mar. 1966	85
Cloth, Cartridge, High Tenacity Direct Spun Viscose Rayon	MIL-C-13540	Jul. 1954	78
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Cloth, Cartridge, Rayon	MIL-C-20300	Nov. 1951	82
Cloth, Duck, Nylon	MIL-C-3953C	Mar. 1966	67
Cloth, Duck, Nylon, Parachute Packs	MIL-C-7219C	Oct. 1964	72
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Cloth, Nylon, Taffeta (2.0-Ounce)	MIL-C-21852	Jun. 1962	85
Cloth, Nylon, Twill, Amd. 4	MIL-C-4294	Oct. 1959	70
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Cloth, Nylon Bunting and Cloth, Nylon-and-Wool Bunting	CCC-C-476d	May 1963	99
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